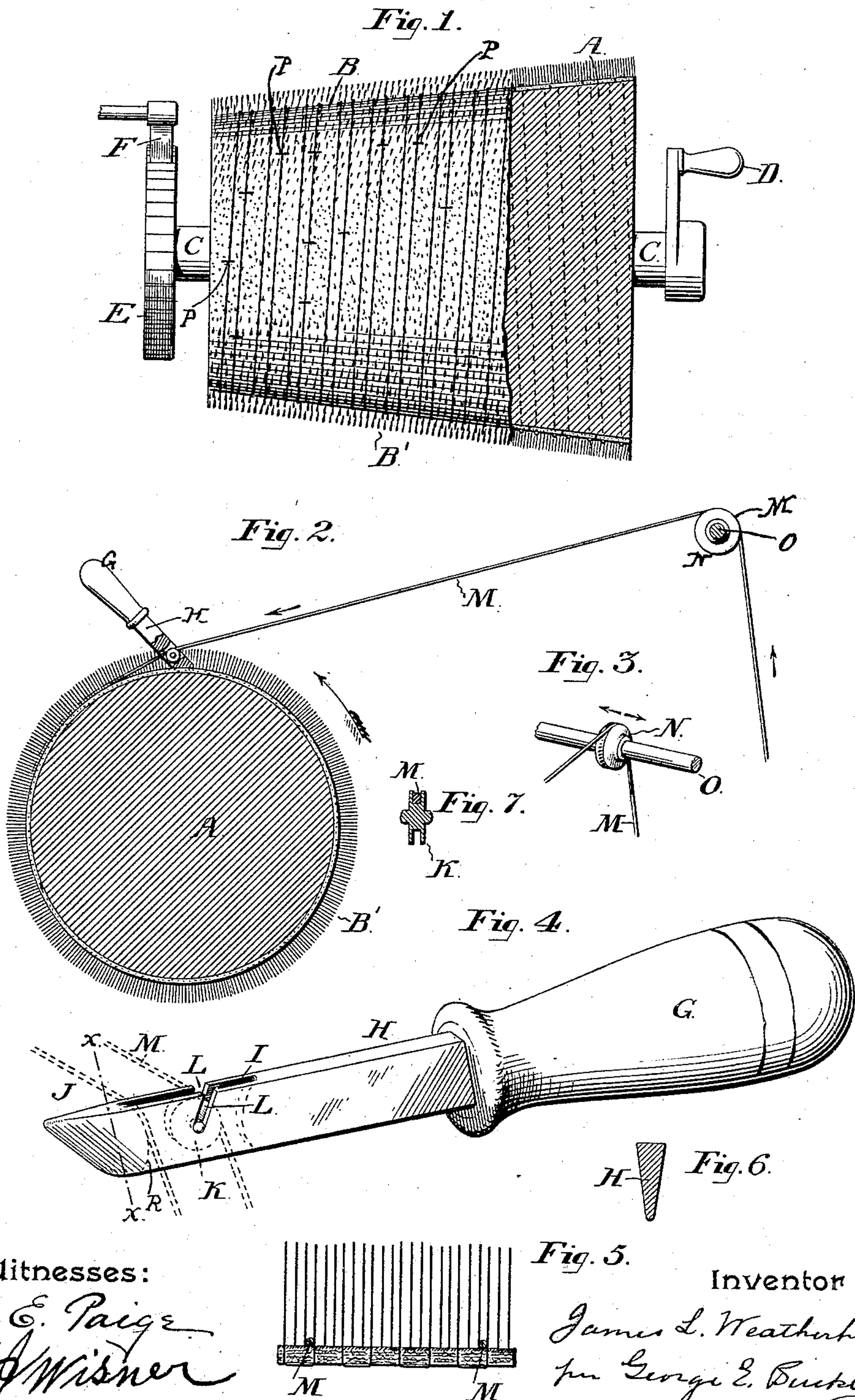


(No Model.)

J. L. WEATHERHEAD.  
TOOL FOR USE IN CLOTHING CYLINDERS AND CONICAL BODIES WITH  
CARD CLOTH.

No. 426,575.

Patented Apr. 29, 1890.





# UNITED STATES PATENT OFFICE.

JAMES L. WEATHERHEAD, OF PHILADELPHIA, PENNSYLVANIA.

TOOL FOR USE IN CLOTHING CYLINDERS AND CONICAL BODIES WITH CARD-CLOTH.

SPECIFICATION forming part of Letters Patent No. 426,575, dated April 29, 1890.

Application filed January 9, 1890. Serial No. 336,417. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES L. WEATHERHEAD, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have  
5 invented certain new and useful Improvements in Tools for Use in Clothing Cylinders and Conical Bodies with Card-Cloth, of which the following is a description, reference being had to the accompanying drawings, making part hereof.

The nature of my invention will fully appear from the following specification and claims. Its object is to provide a device for use in rigidly and permanently securing to  
15 the bodies of the cones of cotton-seed cleaners and carding-engine cylinders the card-cloth coverings with which they are enveloped. They have heretofore been secured by means of nails, tacks, and staples, which have  
20 been found liable to spring out of place under the influence of a high rate of speed and of the vibration consequent thereon and of constant use. As these fastenings were only inserted at intervals they permitted the "cloth" to bulge or blister between them. In fact, there  
25 was no continuous fastening for the clothing, and it is my object to supply this deficiency and to provide a ready and convenient tool for accomplishing the desired end.

30 In the drawings, Figure 1 is a side elevation of the cone (frustum) of a cotton-seed cleaner partially "clothed," also showing the crank for turning the same in the operation of clothing and the ratchet-wheel and pawl; Fig. 2, a vertical cross-sectional view of the  
35 cone of a cotton-seed cleaner, showing the wire as its being wound to secure the clothing to the same and the position of the tool in doing it; Fig. 3, a detached view of the grooved wheel over which the wire is fed to the tool in the operation of securing the clothing; Fig. 4, a perspective view of the tool employed in laying the wire strip between the  
40 rows of wires, showing also the two methods of using the tool, as will be more fully hereinafter set forth; Fig. 5, a cross-sectional view of one strand or layer of the belting armed with the wire teeth, which is technically called the "cloth," also showing two strands of wire  
45 between the rows of wire teeth; Fig. 6, a cross-sectional view of my tool on the line X X of Fig. 4, showing the taper from the back

thereof toward the lower edge, the wedge-shaped formation insuring the parting of the rows of wire needles while placing the binding-wires. Fig. 7 is a detached vertical sectional view of my friction pulley or wheel with a square groove in its periphery adapted to receive a flat binding-wire.

A is the cone to be clothed with leather  
55 armed with a surface of wire points commonly called "card-clothing." This clothing I letter B, constituting the wire needles thereof. The cone A is commonly of wood, but for my device it may be of metal or  
60 wood. The clothing is wound in the manner well known in the art, either spirally in one continuous strip or in straight sheets around the cone or cylinder. The first end of the strip is secured by a tack or tacks and  
65 wound around the cylinder or cone. Its latter end is similarly secured and it is now ready to receive the binding-wire.

C is a shaft passing through the cone A, adapted to receive at one end the crank D.  
70 At its other end it is adapted to receive the ratchet-wheel E, which is provided with a pawl F.

G is the handle of the tool; H, the blade thereof. This blade is provided with an open  
75 elongated slot I, the inner surface forming the forward end of this slot being curved, as indicated by the curve in dotted line J, Fig. 4, which line indicates a binding-wire.

K is a grooved friction pulley or wheel, the  
80 bearings of which set in slots L L in the blade H. This friction-pulley K, as shown in Fig. 7, is provided with a square or rectangular groove in its periphery to receive a wire M rectangular in cross-section. This wire is so  
85 shaped that it may lie snugly between adjacent rows of clothing-wires.

N is a grooved loose pulley mounted on shaft O and carries over it the binding-wire to secure the clothing on cone A.  
90

M is the binding-wire. The pulley N revolves and is mounted loosely on shaft O and traverses along the same in either direction. The shaft O is simply a bearing-shaft and does not revolve. The curve in the tool making the forward boundary of slot I is shown by a curved dotted line R in Fig. 4. The shafts O and C are mounted in any suitable bearings, the latter being turned by crank D.  
95  
100



P P represent staples straddling the binding-wire at intervals and setting into the body covered.

The operation is as follows: The first end of binding-wire M is passed through the slot in blade H, either over the friction-pulley K, or as wire J is shown to be passed through it. This first end of the wire is then securely tacked or fastened to the cone or cylinder through the clothing at the point where it is desired that the binding-wire shall first take effect. The cone is now revolved by crank D in the direction indicated by the large arrow in Fig. 2, the tool being held in the position there shown, with its forward end resting down against the surface of the leather backing of the clothing and between two rows of the wire teeth until the cone or body being clothed has made one complete revolution, when the wire is cut and securely fastened by its last end. If, however, the clothing is formed of a long continuous spiral strip, as is intended to be indicated in Fig. 1, the tool is held down, following the spiral until the binding-wire as it passes through it has completed the whole traverse thereof and has bound the spiral strip for its whole length, when the binding-wire is fastened and cut, and the operation is, if desired, then repeated until as many binding-wires are clasped around the clothing as are necessary to fulfill the requirements.

Round or flat wire may be used; but if the latter is employed I prefer to set the wire in the groove of the friction-pulley K, so that one of its flat surfaces may be guided unerringly and continuously against the surface of the leather backing, and thus to avoid the danger of its turning on edge or over and so disturb the wire points of the clothing. In the spiral winding the lateral movement of the tool will shift the feed-pulley N, so that the wire will be fed to the tool in nearly a direct line. The size of guide or friction pulleys N may be varied—that is, various sizes of such pulleys may be used to accommodate various-sized wires M.

The showing of two wires J and M in dotted lines in Fig. 4 does not indicate that I intend

to set two binding-wires simultaneously, but is simply intended to indicate two methods of using my tool.

It will be noted that the forward end of my blade H is tapered or wedge-shaped, as well as the same form of construction being apparent in cross-section. (See Figs. 4 and 6.) The cone and the cylindrical bodies are rounded and the above-described tool is especially adapted for securing the wire clothing upon them.

What I claim as new is—

1. A tool for securing wire-cloth to rounded bodies, provided with a tapered or wedge-shaped forward end and a slot from the back to the lower edge thereof, adapted to receive and conduct a wire binding for said cloth and to guide the same between the rows of wire needles of said cloth, substantially as described.

2. A tool for securing wire-cloth to rounded bodies, provided with a tapered or wedge-shaped forward end and a slot from the back to the lower edge thereof, and a rounded surface within so disposed that the binding-wire may pass freely over the latter, substantially as and for the purposes described.

3. A tool for securing wire-cloth to rounded bodies, provided with a tapered or wedge-shaped forward end and a slot from the back to the lower edge thereof, and a grooved friction-wheel K, set in said slot between the sides thereof, so disposed that the binding-wire may pass freely over the said wheel, substantially as described.

4. A tool for securing wire-cloth to rounded bodies, provided with a tapered or wedge-shaped end and tapered forward from its back toward its lower edge, also provided with a slot from the back to the lower edge thereof, having a rounded surface within so disposed that the binding-wire may pass freely over the latter, substantially as described.

In witness that the above is my invention I have hereunto set my hand.

JAMES L. WEATHERHEAD.

Witnesses:

MAGGIE WEATHERHEAD,  
MAMIE NEILL.