No. 10,728. PATENTED APR. 4, 1854.

W. H. AKINS.

COP FOR SEWING MACHINES.

FIG. 3.

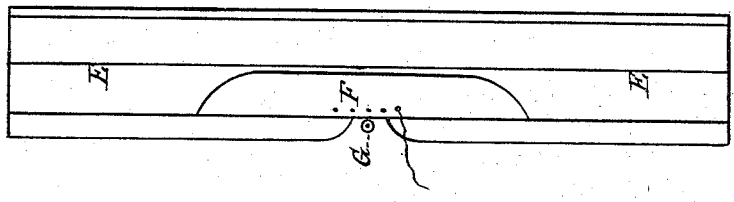


FIG. 2.

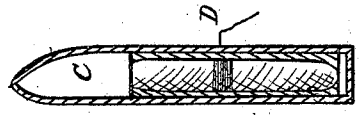


FIG. 4.

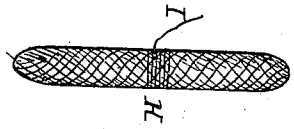
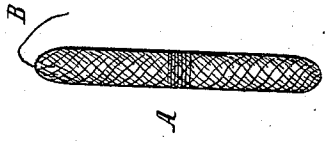


FIG. 1



UNITED STATES PATENT OFFICE.

WM. H. AKINS, OF ITHACA, NEW YORK, ASSIGNOR TO SAMUEL J. PARKER.

IMPROVEMENT IN COPS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **10,728**, dated April 4, 1854.

To all whom it may concern:

Be it known that I, WILLIAM H. AKINS, of the town of Ithaca, in the county of Tompkins and State of New York, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure I is a view of a cop or bobbin as taken off the winder or machine by which it is made. Fig. II is a view of a cop or bobbin as it is placed in a shuttle; and Fig. III is a view of a shuttle thus containing a cop or bobbin in its race, with the end of its thread projecting; and Fig. IV is a cap so constructed as to draw its thread from the side thereof.

More particularly: In Fig. I, A is the cop or bottom. It is spirally wound. B is the internal end of the thread emerging from the inside thereof by a hole at one end. It is a spirally-wound mass of thread recurving at each end, alternately, until it is wound large enough to fill the shuttle, when a few circular windings are given upon the whole mass preparatory to securing this end of the thread, and then by a loop-knot or other similar and equivalent mode the external end of the thread is fastened.

The mode of constructing this cop, bobbin, or mass of thread is as follows: I take a sufficient quantity of thread—be the article I desire to use, silk, linen, cotton, or other material—and I attach it to the distal end or protruding end of the spindle, on which I wind the cop. I then revolve the spindle a few times, which puts on the spindle nearly circular windings in immediate contact with the spindle; and when these nearly circular windings are about the length of the cop I wish to complete, I then lay the thread in a guide and continue revolving the spindle, which tends to give circular windings, while the guide tends to move the thread parallel to the longitudinal axis of the spindle. The combined action, therefore, of the spindle and guide is that the cop is wound spirally and to the length to which the guide is set or gaged. A recurve is of course made somewhat abruptly at each end by the alternating or reciprocating action of the guide. The winding by this united action of spindle and guide I continue until the cop is about the size of the internal walls of the shuttle, or about as large as the shuttle will hold. Then I take the thread out of the guide and give a few revolutions, holding the thread near the middle of the cop, and this gives the few circular windings seen in Figs. I and IV, and then I loop or tie the external end so that it may not slip and become tangled. I give this description because it best describes the nature of the cop. But in so doing the windings, nearly circular at first, are not essential, for if the spindle is rough enough so that the thread will not slip upon it, then the thread may be put into the guide without them. And as to the last circular windings, they are not essential, as the end may be fastened by other means, as a little paste or glue; or a paper may be wound about the whole to preserve the shape and facilitate the operator of a sewing-machine while handling a quantity of cops, the last object being merely to secure the external end, and of the former to commence the cop properly; but the combined action of the spindle and guide is essential, or their equivalents, in order to make a cop spirally wound, and drawing or feeding out its thread from the inside thereof until it exhausts the whole cop. The machine by which this is done, not being claimed in this specification, is not figured nor described; but the cop thus made is described, that the use of it in sewing-machines may be described not only, but claimed. It is believed that the flow or feeding out of the thread of this cop is steady and even, and is of great utility in making tension on the shuttle-thread, as well as a very convenient and useful mode of placing thread in the shuttle.

By Fig. II, I design merely to show a cop which draws or feeds out or pays out its thread from the inside thereof in a shuttle, thus exhibiting further its use in sewing-machines. C is the shuttle, with a cop lying in it; and D is the internal end of the cop passed through a hole in the side of the shuttle, a series of holes in the side of the shuttle near D, or a friction-needle, or other means making the necessary tension on the thread, which means, not being claimed in this specification, are not fig-

ured nor described, said tension, meaning the tightness given to the thread after it has left the cop, the flow or feeding out of the cop being uniform and even.

Fig. III is a shuttle-race, with a shuttle lying in it. E E is the race. F is the shuttle, with the internal end of the cop-thread projecting from one of the holes in the side of the shuttle. G is the point or place where the needle plunges of the sewing-machine. The action and use of the shuttle and race is familiar to those skilled in sewing by machinery, to which art it appertains. The object of this figure is further to exhibit the use of the cop in sewing-machines as connected with machines using a needle and shuttle, or their equivalents.

By Fig. IV, I show a variety of Fig. I. In it H is the cop and I the internal end of the thread, emerging by a hole in the side instead of the end thereof.

Of the cop there are many varieties and equivalents, wound in a great variety of ways. In describing them, the main feature would be any and all masses, cops, or bobbins, drawing the thread from the inside thereof.

What I claim as my invention, and desire to secure by Letters Patent, is—

The use of a cop or bobbin without spindle or spool, in combination with a shuttle, or what is equivalent thereunto, when the thread is drawn or fed out from the inside of the cop or bobbin, by which means I secure an uniform tightness or tension on the cop or bobbin thread as it is drawn or fed out from the shuttle, as described.

WILLIAM H. AKINS.

Witnesses:
H. A. LOWE,
MARCUS LYON.