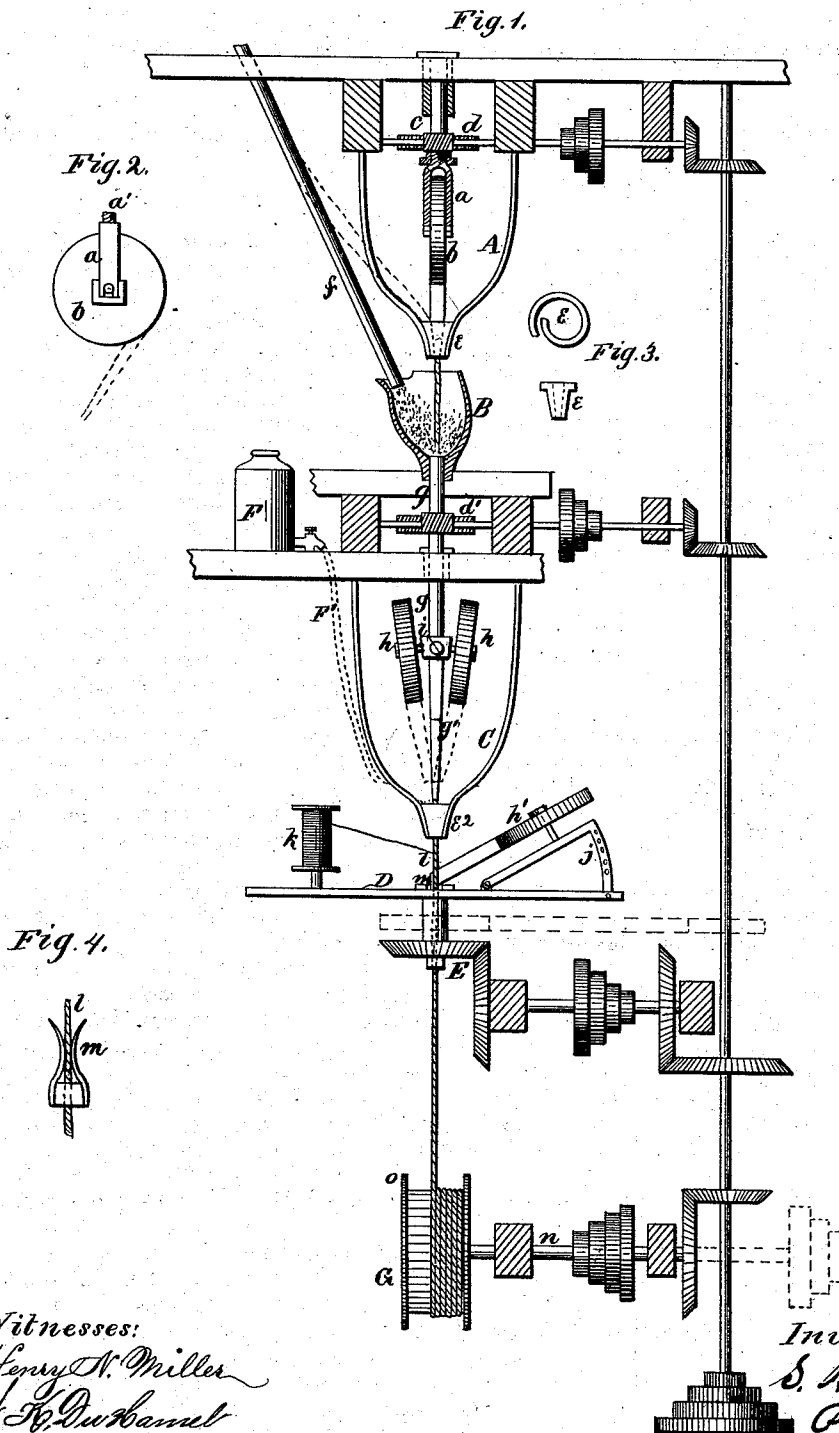


S. H. DADDOW.
Machines for Making Fuse.

No. 155,713.

Patented Oct. 6, 1874.



Witnesses:
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SAMUEL H. DADDOW, OF ST. CLAIR, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR MAKING FUSES.

Specification forming part of Letters Patent No. **155,713**, dated October 6, 1874; application filed July 13, 1874.

To all whom it may concern:

Be it known that I, SAMUEL H. DADDOW, of St. Clair, county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Machine for Making Fuses and Cartridges, &c., of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a machine for making paper fuses, cartridges, covering conducting-wires, &c., as will be hereinafter more fully set forth.

In the accompanying drawing, Figure 1 is a side elevation, partly in section, of my machine; and Figs. 2, 3, and 4 are views of detached parts thereof.

A represents a fixed yoke, of two to four pieces, forming a cage, in which a rotating yoke, *a*, revolves, carrying a wheel or reel of paper ribbon, *b*. The yoke *a* is screwed into the axle *c*, which is rotated by a worm-wheel working in a cog-wheel at *d*.

The screw *a'*, shown in Fig. 2, is used to admit the use of any size or widths of yoke or ribbon.

The paper ribbon on the reel *b* passes through formers *e*, of any suitable shape, two of which are shown in Fig. 3. These are designed to form the ribbon in the shape of a tube or a string, with or without powder inside.

If desired, the powder-tube *f*, leading from a fixed magazine in a safe place, remote from the machine, may be turned to the formers *e* and fed into the folds of the paper as they are wrapped by the twisting operations, and this forms the first kind of fuse, or No. 1, produced without further operation, except to glue and fix the twist, as hereinafter described.

B is a fixed globe or bottle, of suitable material, into which the powder from the tube *f* empties, and through which the paper string, or No. 1 fuse, passes into the hollow spindle *g*, rotated, like the above, by a worm-wheel, *d'*. On the hollow spindle *g* two reels, *h h*, are fastened by the box and set-screw *i*.

These reels may be of any desired size, and on them paper ribbons of suitable width are wound.

The spindle *g* and reels *h h* are rotated within the fixed yoke C by means of the screw, pinion, or worm-wheel *d'*.

One or both of the ribbons on the reels *h* may be used at one time, and passed through the adjustable formers *e'*, with or without the twist given by rotating the spindle.

D is a rotating table, on which one or more reels, *h'*, of paper are placed by means of the adjustable quadrant *j*, and one or more spools, *k*, containing string or thread of any kind, which may or may not be used. The table D is rotated by the gearing E, thus winding the paper ribbon *h'* and thread *k* around the tube *l* as it passes through the former *e'*. F is a can or bottle of soluble glass, and F' a tube leading therefrom to the formers *e'*, or any other part of the machine, for the purpose of gluing or varnishing the fuse as fast as it is made. *m* is a compressor, fixed in the table D, composed of two springs, clasping the tube, as shown in Fig. 4, to smooth said tube or fuse *l*, make it round, and squeeze the glued paper firmly together. G is a wide conical reel, on which the finished fuse is reeled. This reel is movable, and arranged to slip off from the shaft *n* at pleasure, while the rim *o* is also loose, so that a coil of fuse can be taken off the reel without stopping the machine, or the outside coils may be taken off while the inside coils are winding on.

The entire machinery may be run by pulleys and belts, or gear-wheels.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the stationary yoke A, former *e*, revolving yoke *a*, and reel *b*, substantially as shown and described.
2. The adjustable reel *h'*, in combination with the table D, for the purpose herein set forth.
3. The combination of the yokes A *a* C, reels *b h h'*, powder-receptacle B, glue device F F', formers *e e'*, thread-spool *k*, and reel G, all constructed as described, and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 17th day of June, 1874.

SAMUEL HARRIES DADDOW.

Witnesses:

GEO. A. WELLS,
EDMUND G. BUTLER.