

April 23, 1940.

E. B. MATHEWS

2,198,550

TELETYPEWRITER TAPE WIPER

Filed Sept. 20, 1938

2 Sheets-Sheet 1

FIG. 1

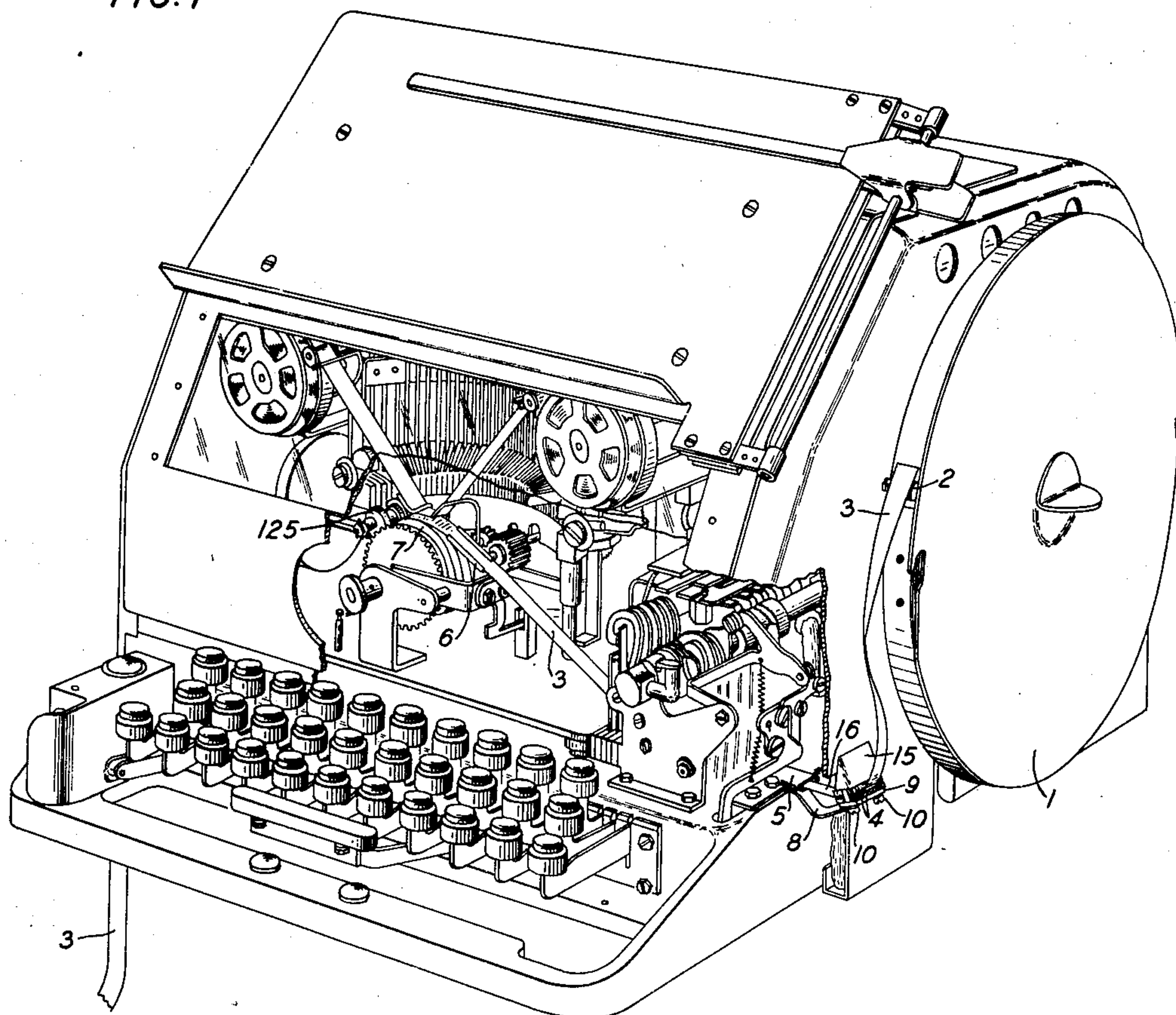


FIG. 2

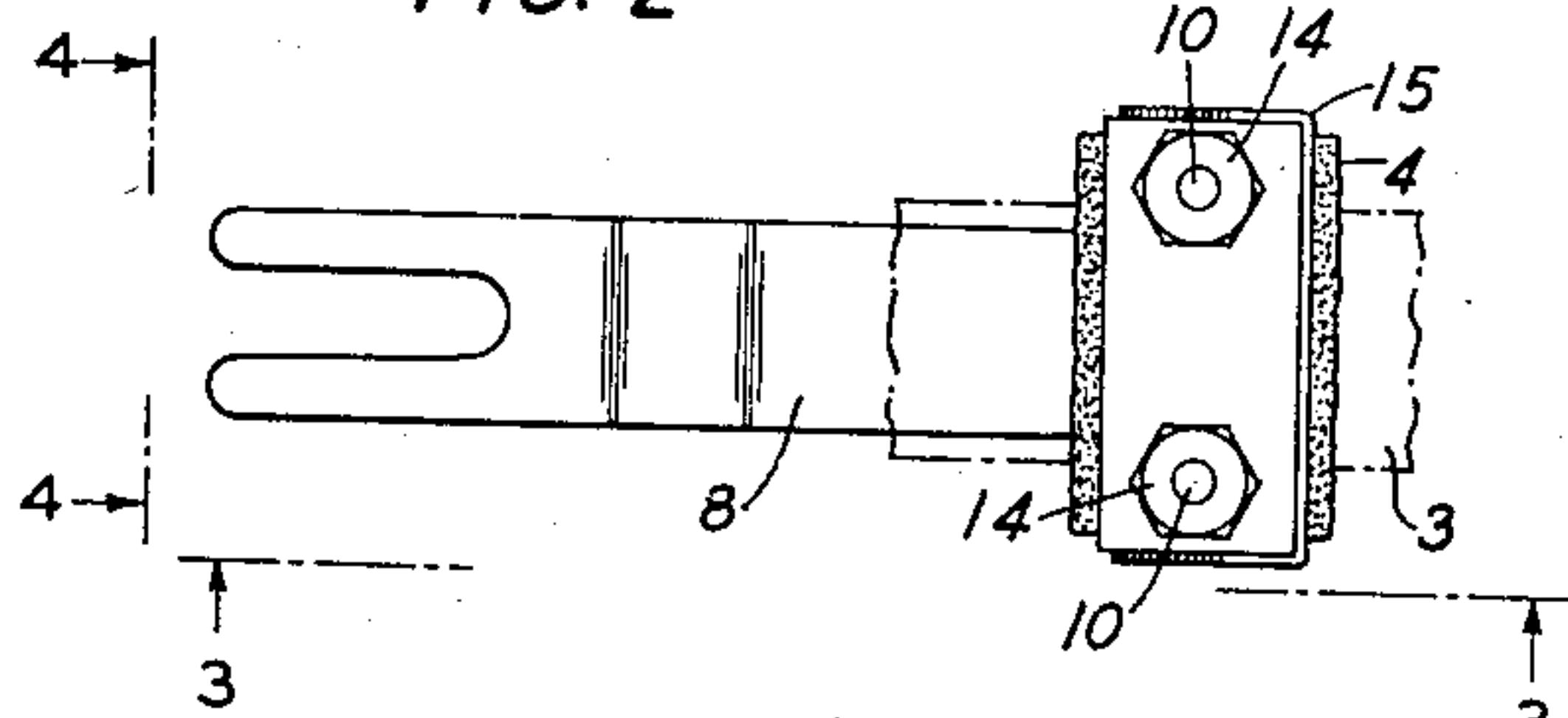


FIG. 3

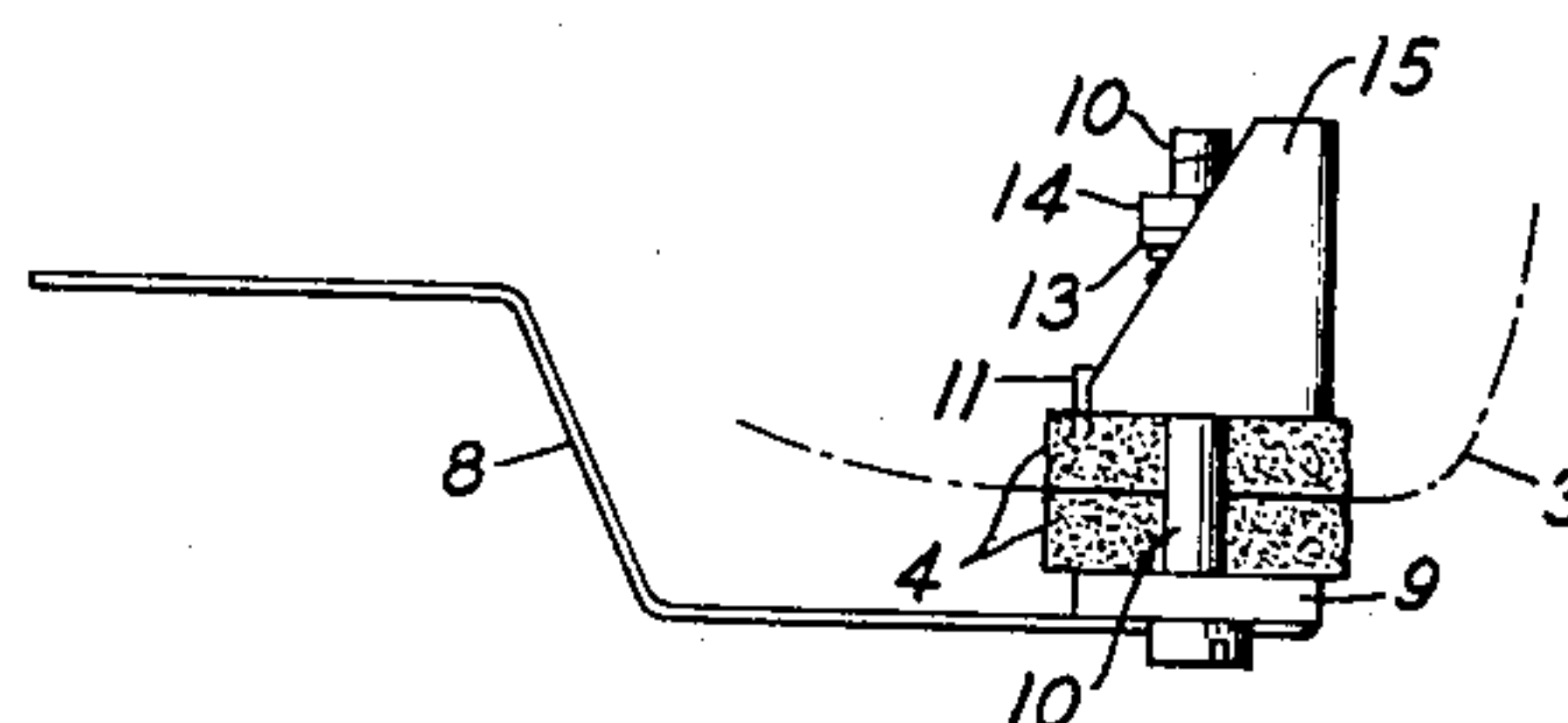
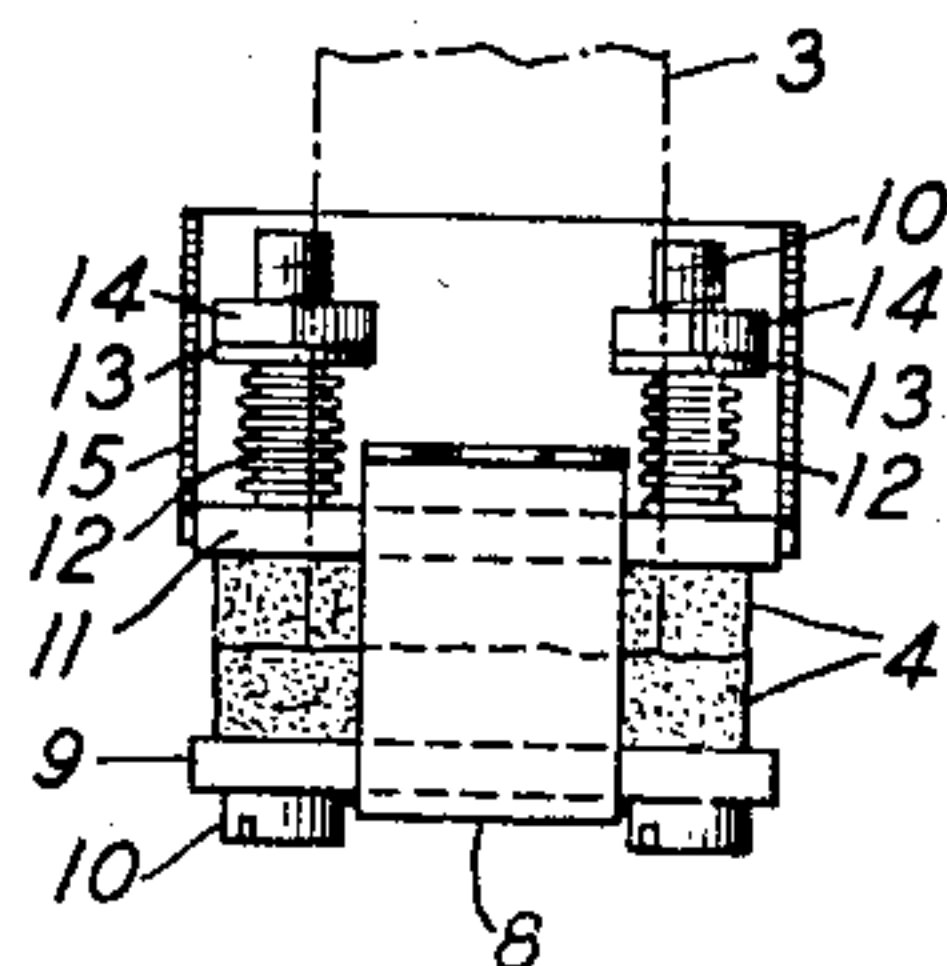


FIG. 4



INVENTOR
E. B. MATHEWS
BY *William R. Ballard*
ATTORNEY

April 23, 1940.

E. B. MATHEWS

2,198,550

TELETYPEWRITER TAPE WIPER

Filed Sept. 20, 1938

2 Sheets-Sheet 2

FIG. 5

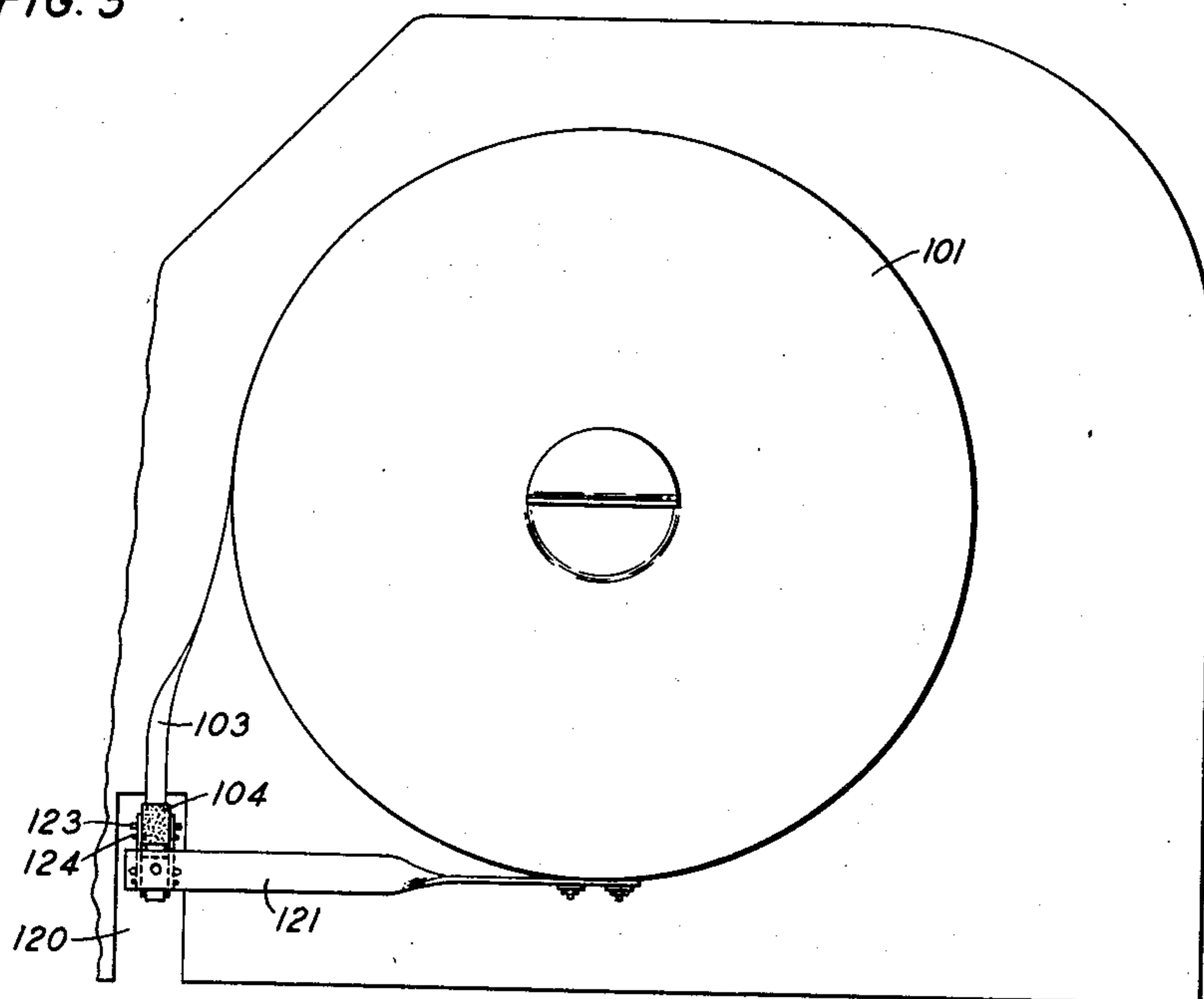


FIG. 6

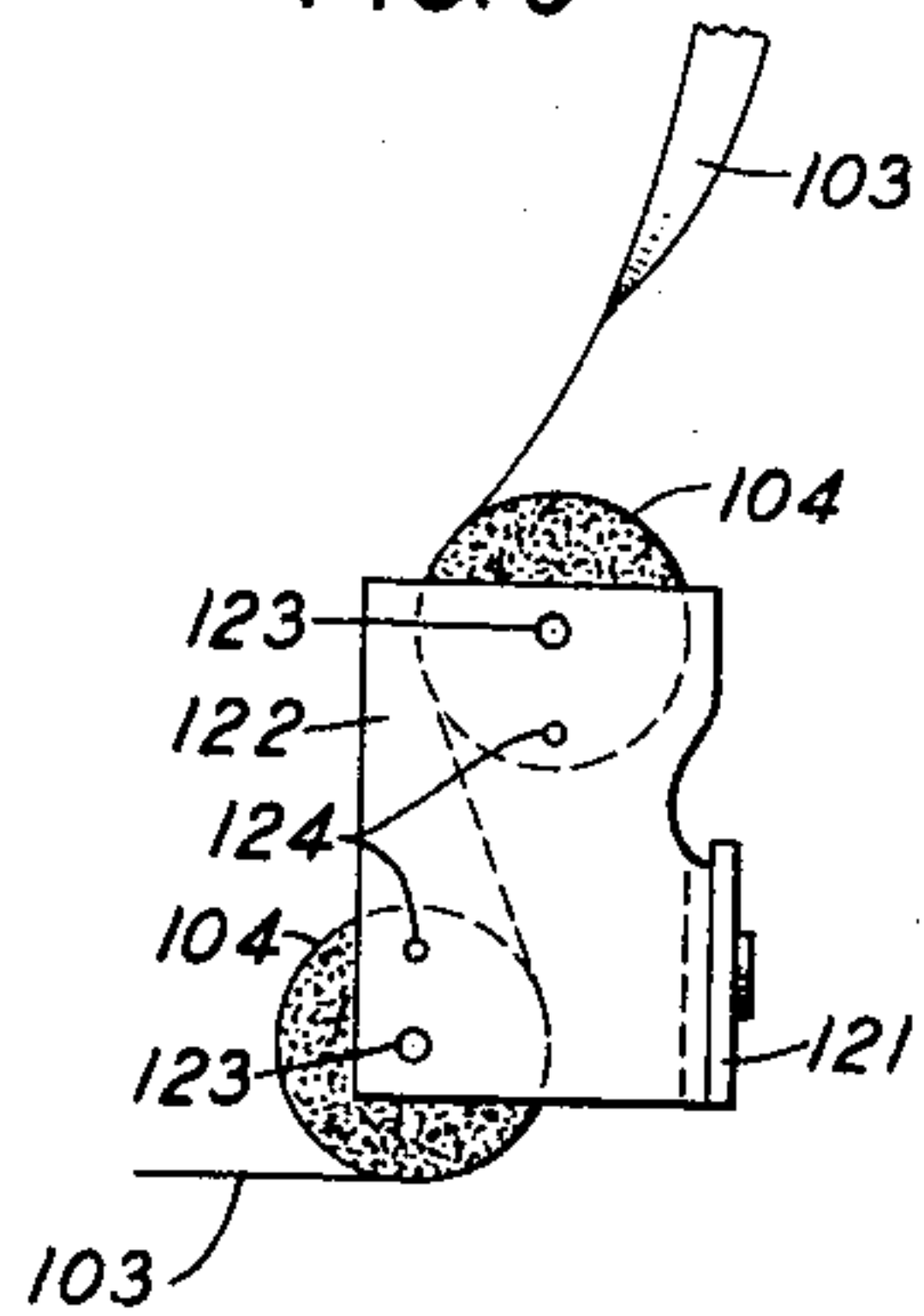


FIG. 7

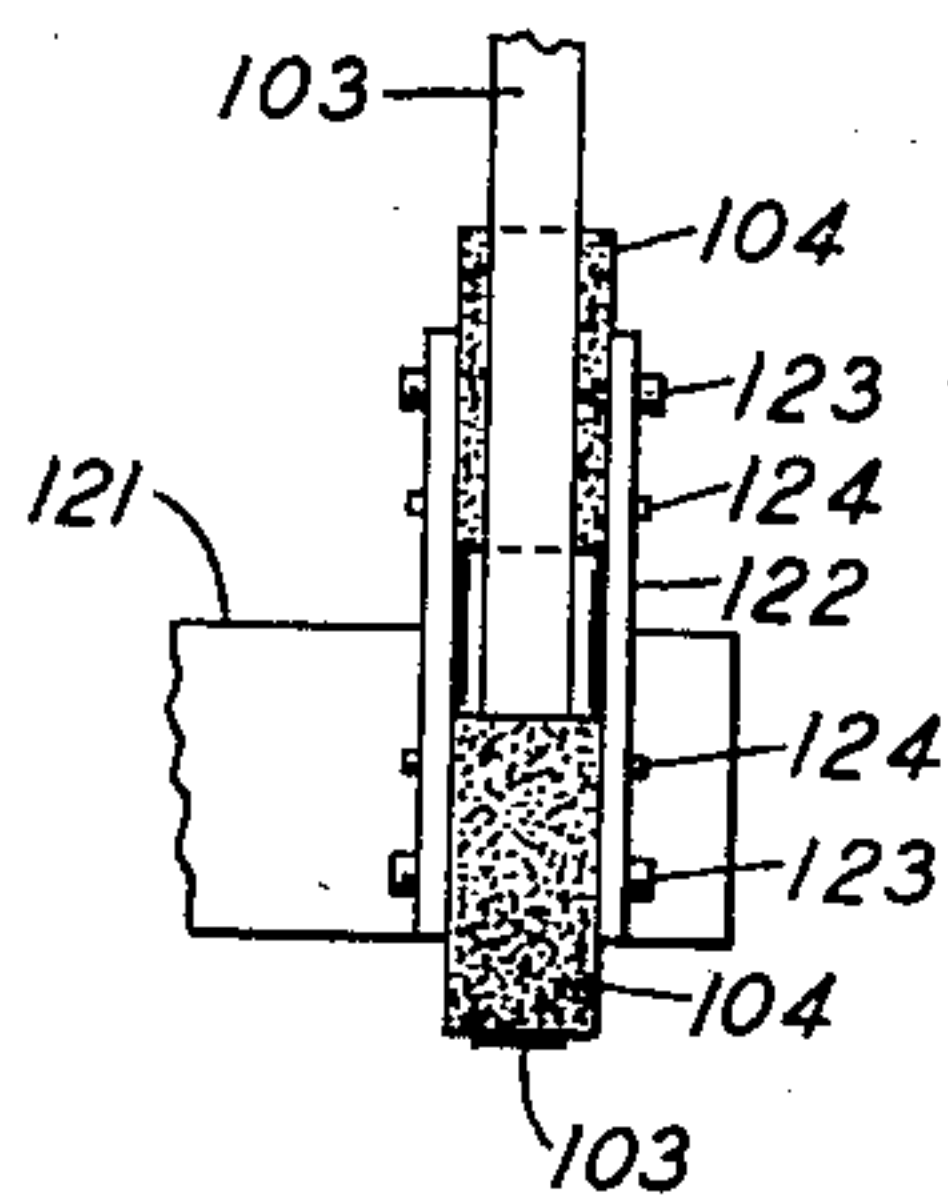
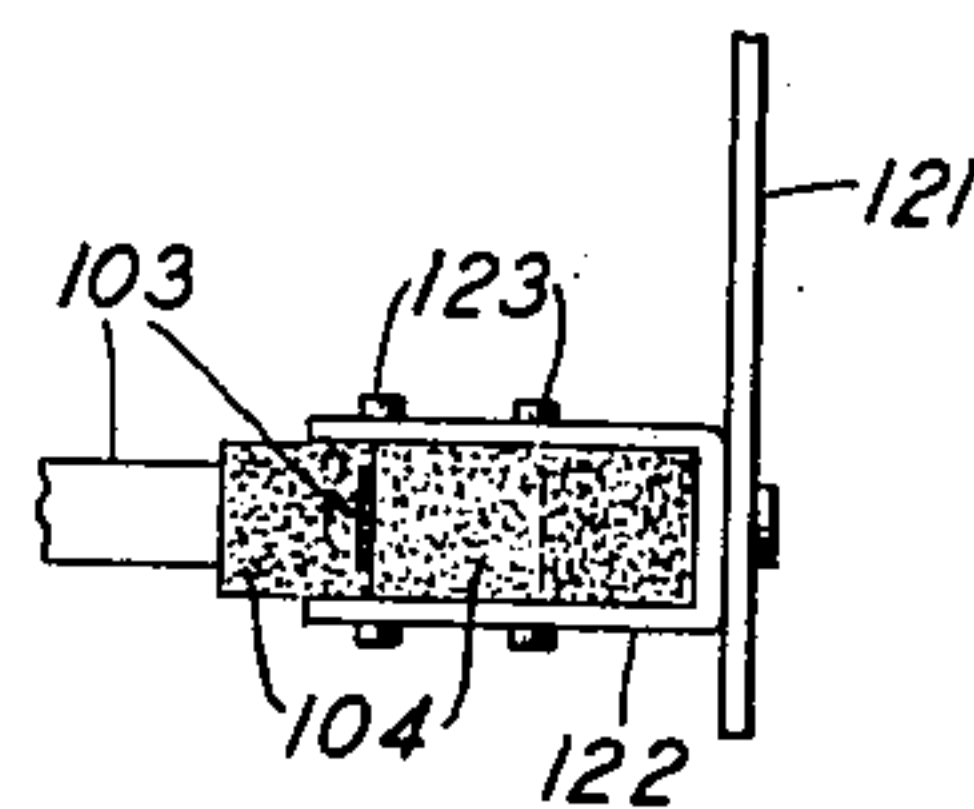


FIG. 8



INVENTOR
E. B. MATHEWS
BY
William R. Ballard
ATTORNEY

UNITED STATES PATENT OFFICE

2,198,550

TELETYPEWRITER TAPE WIPER

Eric Barry Mathews, Portland, Oreg., assignor
to American Telephone and Telegraph Com-
pany, a corporation of New York

Application September 20, 1938, Serial No. 230,883

2 Claims. (Cl. 15—210)

This invention relates to telegraph machines for recording intelligence on tape and, more particularly, to means for removing dust and lint from a tape as the tape is unwound from its roll and before it passes through a telegraph machine.

Heretofore, the telegraph machines in general use have not been provided with means for removing dust and lint from recording tape before the tape passed through the machines. Consequently, a relatively large amount of dust and lint has been carried into the machines by this tape. In certain cases the amount of dust and lint accumulating in a machine operated for a period of 65 days has been between four and six full tablespoons. Such accumulations of dust and lint are undesirable both from an appearance viewpoint and from a maintenance standpoint. More frequent visits of a maintenance man are necessary because the accumulations, if not removed at frequent intervals, will clog the tape guide tubes and other apparatus in the machines thereby causing improper operation and the printing of errors.

Accordingly, it is an object of this invention to provide a telegraph machine with a device for removing dust and lint from the recording tape before the tape passes through the machine.

This object is attained by attaching a suitably designed tape wiper to a telegraph machine near the point where the recording tape starts to pass through the machine. Essentially, this tape wiper comprises two pieces of resilient material, such as felt, designed to scrape against both surfaces of the tape as the tape passes between them. If desired, the pieces of felt can be impregnated with some substance, such as mineral oil, to prevent gummed tape from sticking to the felt during humid weather.

The invention will be more fully described in connection with the following detailed description of the drawings in which:

Figure 1 is a three-dimensional view of a telegraph machine provided with a tape wiper;

Fig. 2 is a top plan view of the tape wiper;

Fig. 3 is a side view of the tape wiper;

Fig. 4 is a back view of the tape wiper;

Fig. 5 is an end view of a telegraph machine provided with a modified form of the tape wiper;

Fig. 6 is a side view of this modified tape wiper;

Fig. 7 is a front view of this modified tape wiper; and

Fig. 8 is a top plan view of the modified tape wiper.

For explanatory purposes the invention has

been shown and will be described as applied to a telegraph machine of the type described in Patent 1,745,633, granted February 4, 1930, to S. Morton et al. The disclosure of this Morton et al. patent is incorporated herein by reference as a part of this specification. However, it is to be understood that the invention may be used with other forms of telegraph tape recorders and may also be employed with telegraph tape perforator-transmitter machines. In fact, the invention can be used with any device employing a tape which should be kept free from dust and lint.

Fig. 1 is a three-dimensional view of a printing telegraph machine of the type disclosed in Morton et al. Patent 1,745,633 and is shown to comprise a tape reel compartment 1 having a cut-out portion 2 through which the recording tape 3 emerges. Tape 3 passes between the two pieces of felt 4—4 of the tape wiper and then enters the inside of the teletypewriter by way of the tape guide tube 5 after which it goes through the tape guide channel 6, over the platen 7, and later emerges from the lower left portion of the teletypewriter. Tape 3 is moved along this path of travel by means of the tape feeding means which includes the pressure roller (Fig. 1).

The tape wiper comprises a supporting member 8 which is bent in a manner best seen in Fig. 3. Member 8 is also bifurcated at one end, as shown in Fig. 2, for enabling it to be attached to the base of the teletypewriter by sliding the bifurcated end under the end of the tape guide tube 5. Affixed to the other end of member 8 is a small plate 9 having two holes through which pass two bolts 10—10.

Mounted upon bolts 10—10 is another small plate 11 also having two holes through which the bolts 10—10 pass. Sandwiched between plates 9 and 11 are the two pieces of felt 4—4 mentioned above. A spring 12 is mounted upon each bolt 10. Each spring 12 is held on its bolt 10 by a washer 13 and a nut 14. Springs 12—12 tend to compress the pieces of felt 4—4 so that they will apply a certain degree of pressure to the tape 3 and perform a thorough cleansing operation. The degree of spring tension under which the two pieces of felt 4—4 are clamped together may be varied by adjusting the position of the nuts 14—14 on bolts 10—10.

Thus, the tape 3 passes between the two pieces of felt 4—4 which, being clamped together under spring tension, scrape off all dust and lint adhering to both surfaces of tape 3. It is to be noted that the dust and lint particles are re-

5 moved just before the tape 3 enters inside the teletypewriter. A guard member 15 is affixed to the front edge of plate 11 to act as a baffle-plate for preventing the dust and lint particles from piling up in front of the spring assembly and then toppling over onto the tape 3 at the point 16 from which point they would be carried inside the teletypewriter. Guard member 15 also prevents the dust and lint, removed from the tape, from clogging the springs 12—12.

10 A simplified modification of the invention is shown in Figs. 5, 6, 7, and 8. Fig. 6 is a side view of a teletypewriter of the type disclosed in the above-mentioned Morton et al. Patent 15 1,745,633 showing the tape reel compartment 101 from which tape 103 passes down between the two pieces of felt 104—104 of the modified tape wiper. After passing between the pieces of felt 104—104, the tape 103 enters inside the teletypewriter by way of hole 120 cut in the cover of the teletypewriter.

In this embodiment of the invention, the tape wiper is mounted on the tape tension spring arm 121, affixed to the tape reel compartment 101, commonly used with teletypewriters of this type. 25 Secured to arm 121 is a U-shaped bracket 122. The two pieces of felt 104—104 are mounted between the sides of bracket 122 on rods 123—123. The pieces of felt 104—104 are shown to be cylindrically shaped but they may be made in any other shape desired, such as cubical. It is preferable, but not imperative, that the pieces of felt 104—104 be staked with pins 124 to prevent them from turning around on rods 123 as the felts 104—104 can scrub tape 103 better if they (the felts 104—104) are held stationary.

As is best seen in Fig. 6, the tape 103 passes over the upper portion of the top piece of felt 104 and then passes under the lower portion of the bottom piece of felt 104. When the tape 103 is drawn inside the teletypewriter by the tape feed mechanism, which includes a pressure roller similar to the presser roller 125 (Fig. 1), a certain amount of tension is exerted on that portion of the tape that is between the two pieces of felt 104—104. This tension causes the tape 103 to bear firmly against the felts 104—104 with the result that the top piece of felt 104 scrapes dust and lint from the under surface of tape 103 and 50 the bottom piece of felt 104 wipes off the top sur-

face of tape 103. In this manner, tape 103 is cleaned just before it enters the teletypewriter.

The invention has been described with reference to its preferred embodiment and its preferred application. It is to be understood that the invention may be applied to other devices where a tape or ribbon requires wiping and may be embodied in other modifications than that specifically shown in the drawings. Consequently, the invention is not to be limited to the particular form and use shown and described but is to be limited only by the claims appended hereto.

What is claimed is:

1. A device for removing dust and lint from a tape, said device including a supporting member for supporting the device, a base plate affixed to said supporting member, tape wiping means comprising a first resilient member mounted on said base plate and a second resilient member superimposed upon said first resilient member, a top plate mounted on said second resilient member, two bolts for holding the two resilient members and the plates in their proper position, one bolt passing through a hole in one end of both the plates and the resilient members, and the other bolt passing through a hole in the opposite ends of the plates and the resilient members, two coiled springs mounted upon the bolts and bearing against one of the plates, two nuts mounted on the bolts for adjustably compressing the springs for adjustably forcing the two resilient members together between the plates, and a baffle plate mounted on the top plate for preventing the dust and lint that is removed from the tape from piling up on the top plate and falling over on to the freshly cleansed tape.

2. A device for removing dust and lint from a tape, said device including a U-shaped bracket, a plurality of resilient members, a plurality of rods for mounting the resilient members within the arms of the U-shaped bracket in staggered relationship, and control means for compelling the resilient members to bear against the tape for scrubbing said tape, said control means comprising a plurality of pins passing through the arms of the bracket and through the resilient members for restraining said resilient members from rotating on the rods.

ERIC BARRY MATHEWS.