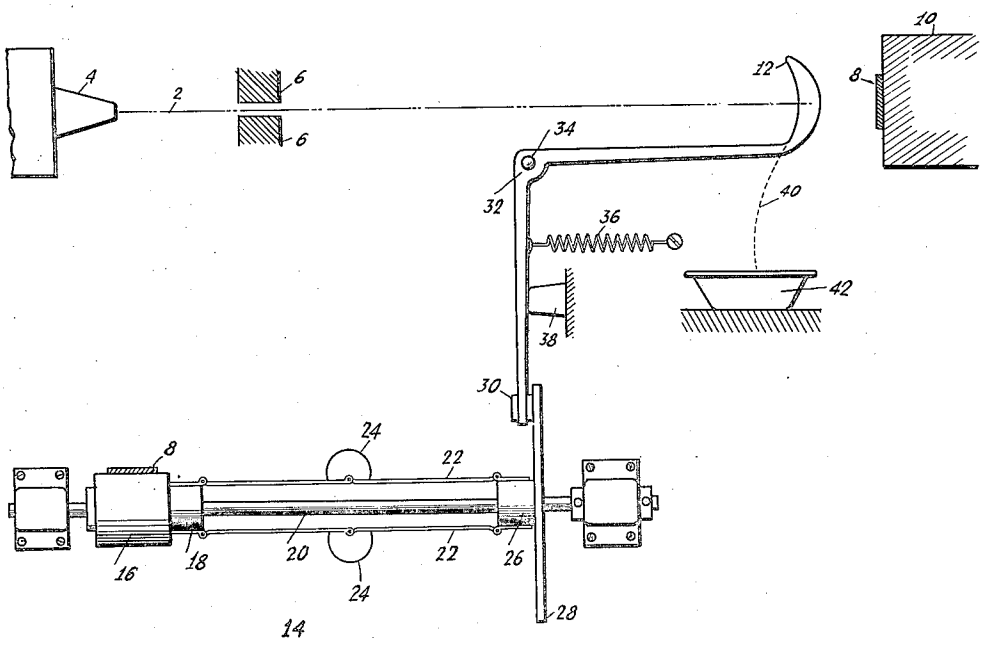
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DEFLECTOR

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DEFLECTOR

Application filed June 14, 1929. Serial No. 370,813.

This invention relates to a deflector and is peculiarly adapted for recording apparatus such as disclosed in the copending application of Clarence W. Hansell, filed January 19, 1929, in the United States Patent Office, Serial Number 333,617.

In that application, there is disclosed a recorder wherein a stream of marking fluid, wobbled according to signal characters, traces upon a moving tape, signals. Because of the small bore of the jet through which the fluid is caused to pass in order to produce a stream of sufficient fineness, the fluid is continuously run through the jet. For the production of characters the stream is deflected by electrostatic forces.

It is undesirable to shut off the stream for any purpose, because, due to the fine bore of the jet, the marking fluid would immediately dry therein and clog up the apparatus. It should, therefore, be clear that one objection would present itself, when the tape ceases to move or when the tape is used up, in that the ink continues to flow, spattering over a certain portion of the tape, or spattering over the apparatus supporting the tape at the point where signal characters are to be marked thereon.

Accordingly one object of my invention is to provide automatic means controlled by the speed of the tape, whereby, if the tape falls below a predetermined speed, or stops, the stream of marking fluid is deflected from the tape or supporting apparatus; and, means whereby, when the tape reaches a predetermined speed correct for signal marking, the stream will be allowed to trace signal characters on the tape.

Another object of this invention is to provide centrifugally actuated means for controlling the deflection of the stream.

The invention may best be understood by referring to the accompanying drawing in which I have illustrated diagrammatically, apparatus for carrying into effect, the objects of my invention.

In the copending application referred to, it was shown how a continuous stream of marking fluid 2, for example, ink, from a fine bore jet 4 is wobbled or deflected electrostatically by electrodes 6 so as to cause signal characters to be traced upon a moving tape 8 supported in any suitable fashion at the point of marking by a platen or other means 10.

If the tape 8 should happen to break or terminate, or, if due to some defect in the driving apparatus, the tape should cease to move over platen 10, ink from 4 would spatter over the tape or apparatus at 10.

In order to prevent spattering of the ink and yet allow of the continuous flow thereof from the jet 4, I provide a baffle or element 12 adapted to be moved into the path of the stream of fluid when the tape speed falls below a predetermined value, and to be removed therefrom when the tape speed is of a desired marking value. The apparatus for accomplishing this comprises centrifugally actuated apparatus 14 responsive to the speed of the tape for moving through link work associated therewith, baffle 12 into and out of the stream 2 according to the speed of the tape 8.

More specifically tape 8, through a friction surface 16, is made to drive the centrifugally actuated apparatus or governor 14. Member 16 is fastened to collar 18 and governor shaft 20 by any suitable means. Attached to collar 18 are the usual governor springs and balls 22, 24 respectively, the former of which are attached to the hub 26 of disc 28.

Accordingly, it will be seen that the axial movement of disc 28 is dependent upon the speed of tape 8, for the latter controls the distance which the governor balls 24 are centrifugally thrown out.

Through a leather or oiled felt contacting piece 30 rigidly fastened to bell arm 32 pivotally supported at 34, member 28 moves, when it reaches a predetermined speed, baffle 12, attached to bell arm 32, out of the stream of marking fluid. Spring 36 tends to pull the baffle 12 into the stream and against abutment 38.

The size of the parts are so chosen, of course, that at the desired travelling speed for the tape the centrifugal force due to rotation of balls 24 is sufficient to overcome the tension of spring 36 in order to pull baffle 12 out of the stream thereby allowing the

stream to trace signal characters on the tape at or near supporting member 10.

The baffle 12 may be so shaped or have a hole punched in the bottom thereof so that when it is deflecting ink, the deflected ink runs, as at 40 into a pan, or other device 42 to be repumped subsequently through jet 4.

It is to be understood that the principles of this invention are not limited to a recorder wherein ink is utilized as a character outlining fluid. It is clear that by suitably designing baffle 12, it may be used to intercept a wobbled stream of radiant energy in which case, of course, tape 8 would be made sensitive to the character of the stream utilized. The invention would then prevent signal marking when the tape ran at too slow a speed or over exposing at a certain point when the tape stops.

Having thus described my invention what I claim is:

1. In a recorder, a travelling tape, a stream for outlining signal characters thereon; a baffle; means for moving said baffle into said stream thereby preventing said stream from outlining signal characters on the tape; and means, responsive to the speed of the tape, for moving said baffle out of said stream, thereby allowing the stream to outline signal characters on the tape.

2. In a recorder, a tape; means whereby said tape drives a device having a centrifugally actuated member thereon; a baffle; and means for controlling the movement of the baffle according to the movement of said member.

3. In combination a tape; a governor; an ink jet; a baffle; means for driving the governor, and means actuated by said governor when it reaches a predetermined speed for moving the baffle relative to the ink jet.

4. In a recorder, means for directing an ink jet upon a moving tape; a governor actuated by the movement of the tape; a baffle; and means controlled by said governor for moving said baffle out of the path of said jet when said tape moves at a predetermined speed, and for moving said baffle in the path of the jet when said tape travels below said predetermined speed.

5. In a recorder, a travelling tape; a jet for causing a stream of fluid to impinge upon said tape; a governor; means for frictionally driving said governor by said tape; a disc associated with said governor; a baffle; means for causing said baffle to move into the path of the fluid, thereby preventing the fluid from impinging on the tape, and link work associated with said baffle and disc for moving said baffle out of said stream when said governor is driven at or over a predetermined speed.

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