

(No Model.)

C. E. DAILEY.

AUTOMATIC SLIVER INDICATOR AND RECORDER.

No. 549,444.

Patented Nov. 5, 1895.

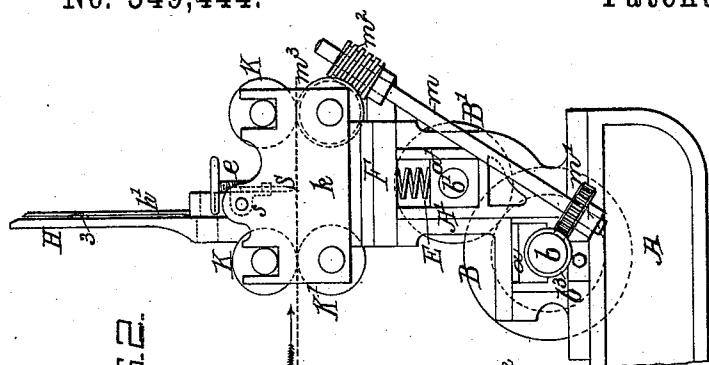


FIG. 2.

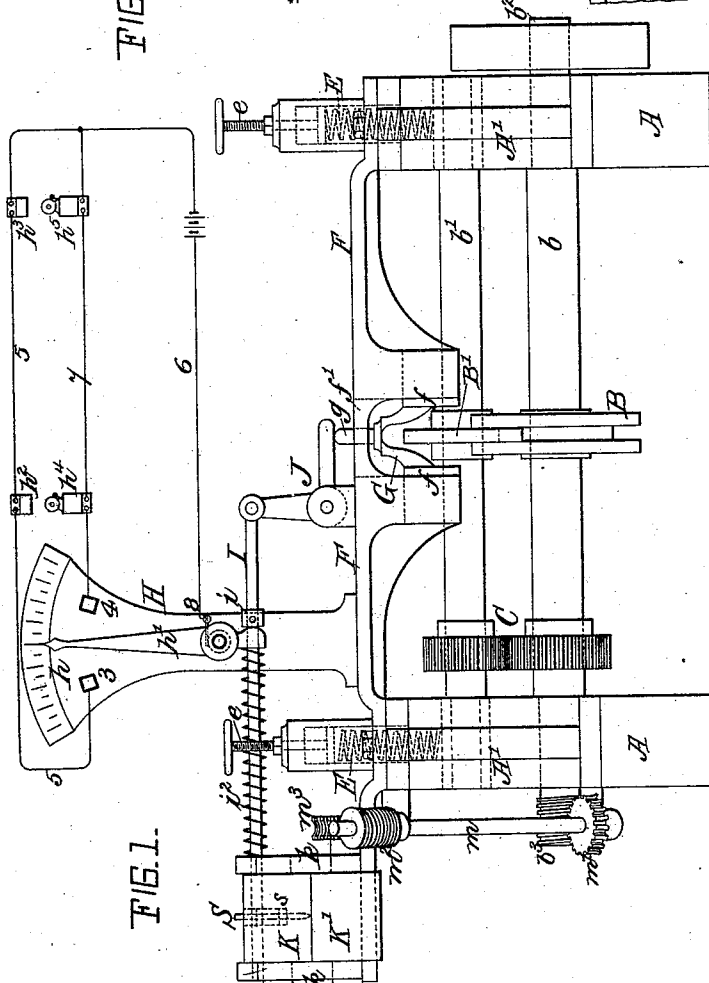


FIG. 1.

WITNESSES:

George Kaumann
E. C. Connor

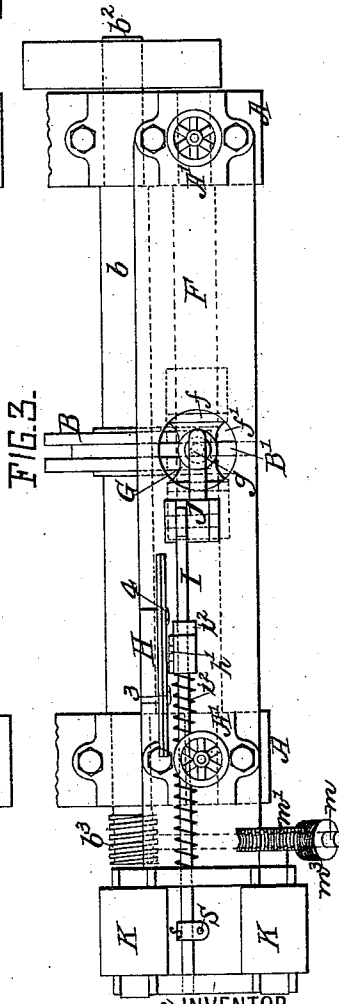


FIG. 3.

INVENTOR

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UNITED STATES PATENT OFFICE.

CAROLUS E. DAILEY, OF BROOKLYN, NEW YORK.

AUTOMATIC SLIVER INDICATOR AND RECORDER.

SPECIFICATION forming part of Letters Patent No. 549,444, dated November 5, 1895.

Application filed April 27, 1895. Serial No. 547,298. (No model.)

To all whom it may concern:

Be it known that I, CAROLUS E. DAILEY, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented an Automatic Sliver Indicator and Recorder, of which the following is a specification.

The object of my invention is to construct a device which will automatically indicate and record the character of slivers or yarns passing from or to or through textile machinery in which the slivers or yarns are being prepared.

My invention is more particularly applicable in connection with the delivery-rolls of preparing machinery generally—such as breakers, spreaders, drawing-frames, and condensers—for hard fibers, such as for binder-twine, or breakers and condensers for soft fibers—such as woolen, cotton, jute, &c.

In the accompanying drawings I have shown my invention as applied to the delivery-rolls of a machine known as a “finisher” for hard fibers.

Figure 1 is an end view of the machine, showing my improvements as applied; Fig. 2, a side view of the end of the machine, and Fig. 3 a plan view.

A A are the side frames of the machine, upon which are mounted the housings A' for the bearings a a' of the shafts b b' of the delivery-rolls B B', which are geared together at C and may receive rotary motion in any suitable way, as through a belt-pulley applied to the extended end b² of the lower shaft b. These delivery-rolls are what are known as “male” and “female” rolls, the upper roll B' being in the form of a disk working in a groove in the lower roll B, and the sliver from the machine is fed by the two rolls through this groove. The bearings for the shaft of the upper delivery-roll are acted on by springs E, whose tension can be adjusted by suitable screws e, and which tend to keep the upper roll in contact with the lower roll. Nevertheless, the upper roll will rise or fall to a greater or less extent according to the inequalities in the sliver or yarn passing through, and I avail myself of this movement to secure an indication and record of the condition of sliver or yarn passing to or through the preparing machinery.

I mount upon the housings A' A' or other suitable part of the frame of the machine a cross-beam F, in which I provide vertical guides f f for a saddle-piece G, which is mounted upon and will rise and fall with the shaft of the upper roll B. This saddle-piece has a pin or projection g projecting up through an opening f' in the cross-beam F and serves to transmit motion to the indicating and recording devices.

The indicating mechanism may be adapted to give both visible and audible signals, and these signals may be at the machine or at a distance—as, for instance, in the office of the factory where the machinery is running. In the drawings I have shown an indicator device H, consisting of a dial h and pointer h', mounted on the machine, and in connection with this I have shown in diagram electric circuits to cause the sounding of audible signals h² h⁴ at the machine and h³ h⁵ at a distance, as in the office of the factory, when extreme conditions of too great thickness or thinness or unevenness of the sliver or yarn happen.

The pivoted pointer h' is acted upon at its lower end by an adjustable collar i on a horizontal rod I, guided at one end in frames k on an extension of the cross-beam F and at the other end having a pivotal connection with a bell-crank lever J, which is pivoted to the cross-beam, and has its lower arm acted on by the projection g of the saddle-piece G. A spring v² tends to keep the lower arm of the bell-crank lever J in contact with the projection of the saddle-piece G.

For operating the audible signals electricity may conveniently be employed. For that purpose two insulated contacts 3 and 4 may be provided upon the indicator-plate h, the contact 3 being connected through a conductor 5 with a return-conductor 6, containing a battery and leading to a contact 8 on the pointer h', while the contact 4 is connected through a conductor 7 with the same return-conductor 6, which is thus common to both circuits. In the circuit of the conductor 5 there may be provided electric bells or other audible signals h² at the machine and h³ at a distance, while in the circuit of the conductor 7 there may be provided other and different sounding-signals h⁴ and h⁵, so that

extreme conditions of the sliver will be audibly announced, as before explained, when the pointer *h'* comes in contact with either the stop 3 or the stop 4.

5 I will now explain, in connection with the drawings, the construction of a recording device which may be used in carrying my invention into effect, although other forms of recording devices may be used. Upon the same
10 rod I which actuates the indicating mechanism already described I mount a stylus, pencil, or other marking device. I have shown a stylus *S*, which may be arranged in the vertical position shown and be simply guided in
15 a vertical socket or sockets in a collar *s*, carried by the rod *I*. Under this stylus or pencil I cause to be fed at a relatively-slow speed a disk or sheet of any suitable material. If a stylus is used, a disk or sheet of foil or other
20 such soft metal may be used to receive the impression due to the weight of the stylus, and if a sheet is employed it may be supplied from a roll and fed through pairs of feed-rolls *K* and *K'*, mounted in bearings in
25 the plates or frames *k*, hereinbefore referred to. These feed-rolls for the record-sheet may receive their motion through any suitable mechanism. In the drawings I have indicated a convenient construction, consisting
30 of an inclined shaft *m*, having at one end a worm-wheel *m'*, driven by a worm *b*³ on the shaft *b* of the lower feed-roll, while at the other end of the shaft *m* there is a worm *m*², engaging with a worm-wheel *m*³ on the shaft
35 of one of the feed-rolls *K*.

I claim as my invention—

1. In a textile preparing machine, the combination of male and female rolls, through which yarn or sliver passes and yielding
40 bearings in which the shaft of one of said rolls is mounted, with a cross-beam, a saddle piece resting upon said shaft, and guided in said cross-beam, and an indicator mechanism having its movable parts actuated by said
45 saddle-piece, substantially as described.

2. In a textile preparing machine, the com-

bination of male and female rolls through which yarn or sliver passes, and yielding bearings, in which the shaft of one of said rolls is mounted, with a cross-beam, a saddle
50 piece resting upon said shaft and guided in said cross-beam, and a recording mechanism having its movable parts actuated by said saddle-piece, substantially as described.

3. In a textile preparing machine, the combination of rolls through which yarn or sliver
55 passes, and yielding bearings in which the shaft of one of said rolls is mounted, with a cross beam, a saddle piece bearing upon and moving with said yielding shaft, and guided
60 in said cross-beam, a rod adapted to control the indicating and recording mechanism and a bell-crank lever connected to the said rod and actuated by the said saddle-piece, substantially as set forth.

4. In a textile preparing machine, the combination of rolls through which yarn or sliver
65 passes and yielding bearings in which the shaft of one of said rolls is mounted, with a saddle piece bearing upon and moving with
70 said yielding shaft, a bell-crank lever acted on by said saddle piece, a horizontal rod, carrying a recording instrument, an indicator pointer acted on by the said rod and a spring
75 to act upon the pointer and through it upon said rod, substantially as described.

5. In a textile preparing machine, the combination of rolls through which yarn or sliver
80 passes and yielding bearings, in which the shaft of one of said rolls is mounted, with a cross beam, a saddle piece bearing upon and moving with said yielding shaft, and an
audible alarm controlled by said saddle piece, substantially as described.

In testimony whereof I have signed my
85 name to this specification in the presence of two subscribing witnesses.

CAROLUS E. DAILEY.

Witnesses:

GEORGE BAUMANN,
HUBERT HOWSON.