(No Model.)

G. S. WITHAM.

FELT GUIDE.

No. 585,147. Patented June 22, 1897.

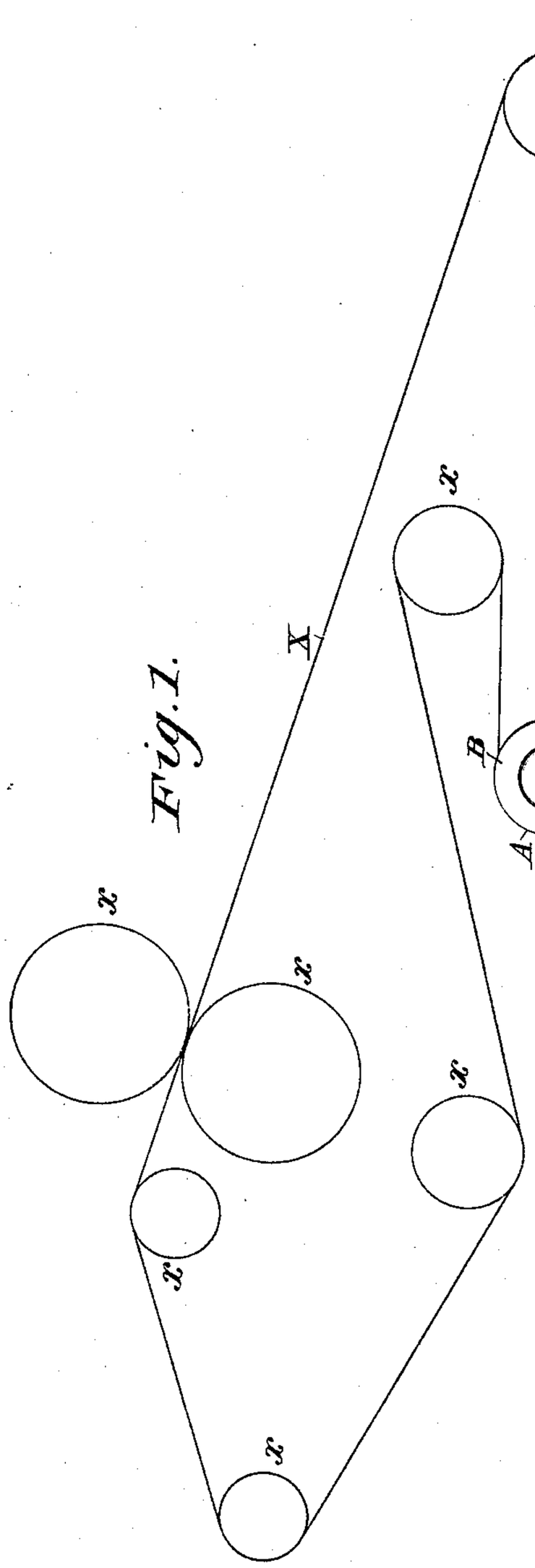

Fig. 1.

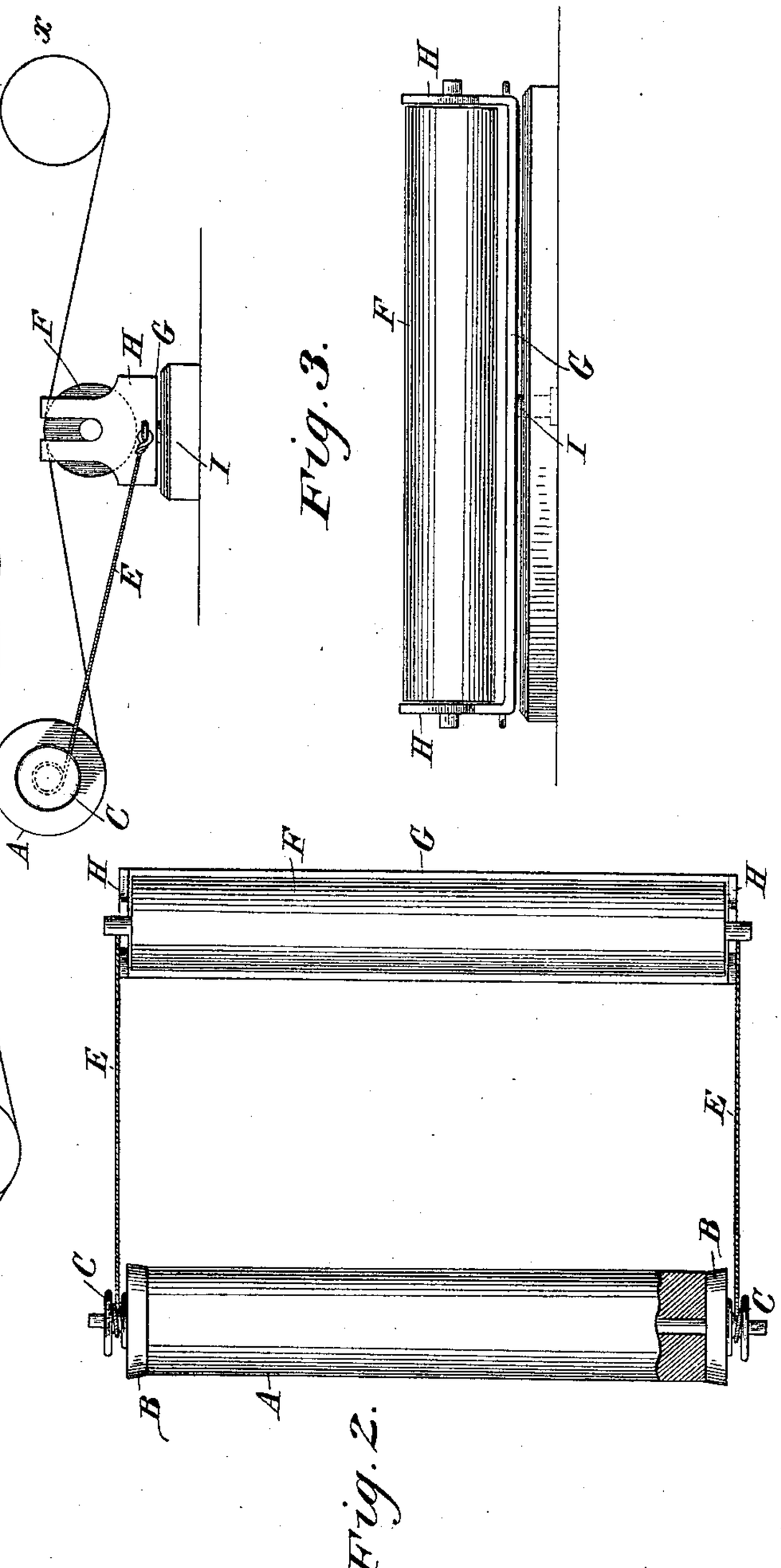

Fig. 2.

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE S. WITHAM, OF OCONTO FALLS, WISCONSIN, ASSIGNOR OF ONE-HALF TO EDWARD A. EDMONDS, OF SAME PLACE.

FELT-GUIDE.

SPECIFICATION forming part of Letters Patent No. 585,147, dated June 22, 1897.

Application filed October 16, 1896. Serial No. 609,098. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. WITHAM, a citizen of the United States, residing at Oconto Falls, in the county of Oconto and State of Wisconsin, have invented certain new and useful Improvements in Felt-Guides, of which the following is a specification.

The object of my invention is to provide improved devices for guiding the felts of paper-making machines. The tendency of felts to run out of line on the guide-rolls has commonly been corrected by causing the felt to pass over a roll supported in a frame free to move about a central vertical pivot and which also carries small conical rollers which when engaged by the felt cause the frame to oscillate until the felt is brought into line to feed correctly. This mechanism works correctly, but as the rolls nip the felt they often cause it to wear away, sometimes very rapidly, and an objectionable ragged edge is often produced.

By my improvements I cause the edges of the felt to act frictionally on conical rollers free to revolve at opposite ends of a guide-roll having fixed bearings and connect these rollers with the opposite ends of a centrally-pivoted frame carrying another guide-roll. The rotation of the rollers effects the oscillation of the frame and the roll carried thereby and thus causes the felt to be brought into proper alinement when it tends to run out of line.

In the accompanying drawings, Figure 1 shows a diagram of a felt passing through ordinary guide-rolls and also through guides constructed in accordance with my improvements. Fig. 2 is a plan view, partly in section, of the two guide-rolls to which my improvements are applied. Fig. 3 shows a rear elevation of the centrally-pivoted guide-roll.

The felts X passes over or between the usual guide-rolls x and also over guide-rolls A and F, to which my improvements are applied. The roll A is mounted in fixed bearings and at opposite ends is provided with rollers B, loosely mounted in any suitable way, so as to revolve independently of the roll A. These rollers have inclined peripheries, their inner edges registering with the surface of the roll A. Each of them is provided with a pulley or reel C, and each has secured to it a cord, chain, or other suitable means E for connecting it with the pivoted frame of the roll F. This frame may be of any suitable construction. As shown, it has a transverse plate G, connecting the upright plates H, which are provided with bearings for the roll F. The frame is centrally pivoted at I to a suitable support. The connections E, as shown, are flexible and adapted to be wound up on the pulleys C. The felt is of such width as to pass over the roll A without touching the rollers B—that is to say, normally the felt does not come into contact with the rollers B, but should the felt swerve to one side or get out of line it will come in contact with one of the rollers, causing it to revolve independently of the roll A and thus wind up the corresponding cord E on the corresponding pulley C. This will cause the frame to turn with the roll F and cause this roll to act diagonally upon the felt and change the direction of its movement. This may cause it to pass out of contact with the first roller B and into contact with the opposite roller and thus cause the roll F to oscillate to a different diagonal position and change the feed of the felt, so as to cause it to move too much in the other direction; but very quickly the mechanism will act to get the felt into line, so that it will pass over the rolls in proper alinement without coming in contact with the rollers.

I claim as my invention—

1. A guide for the felt of a paper-making machine comprising two guide-rolls, one of which is pivoted to move horizontally, and the other of which is provided at its opposite ends with rollers mounted to revolve about the same axis, and having inclined peripheries upon which the felt at times rests and which merge into the roll and devices connecting the rollers with the pivoted roll, whereby when the rollers revolve the roll is turned on its pivot.

2. The combination of a guide-roll having fixed bearings and provided at its opposite ends with rollers mounted to revolve about the same axis as the roll, and having inclined peripheries upon which the felt at times rests and which merge into the roll, a second guide-

roll, a pivoted frame in which it is mounted to move horizontally, and devices connecting the rollers with the pivoted frame, whereby when the rollers revolve the roll is turned on its pivot.

3. The combination of a guide-roll having fixed bearings, and provided at its opposite ends with rollers mounted to revolve about the same axis as the roll and having inclined peripheries upon which the felt at times rests, a second guide-roll, a frame in which it is mounted and which is pivoted to move horizontally, pulleys on the rollers, and flexible connections between the pulleys and the pivoted frame.

In testimony whereof I have hereunto subscribed my name.

GEORGE S. WITHAM.

Witnesses:
W. L. EDMONDS,
H. C. MACRORIL.