G. A. JAEGER.

TRACKER AND TENSION DEVICE.

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Fig.1

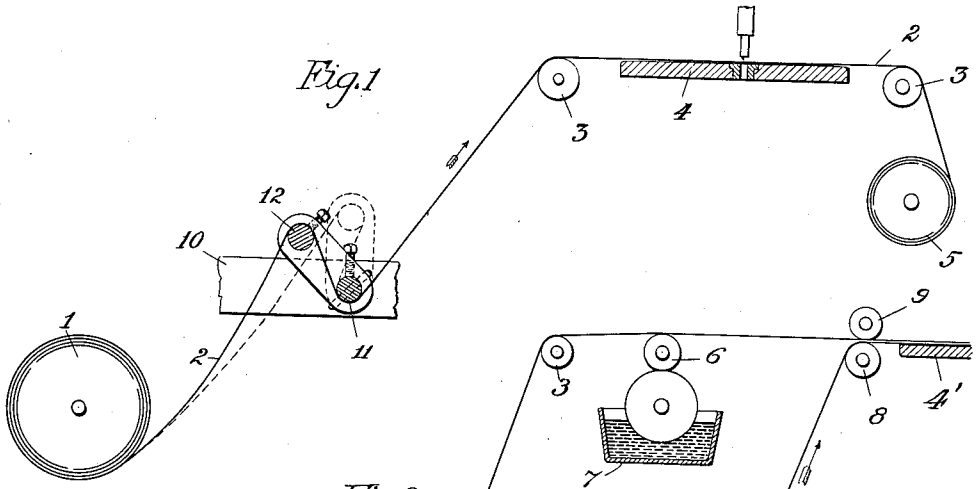


Fig.2

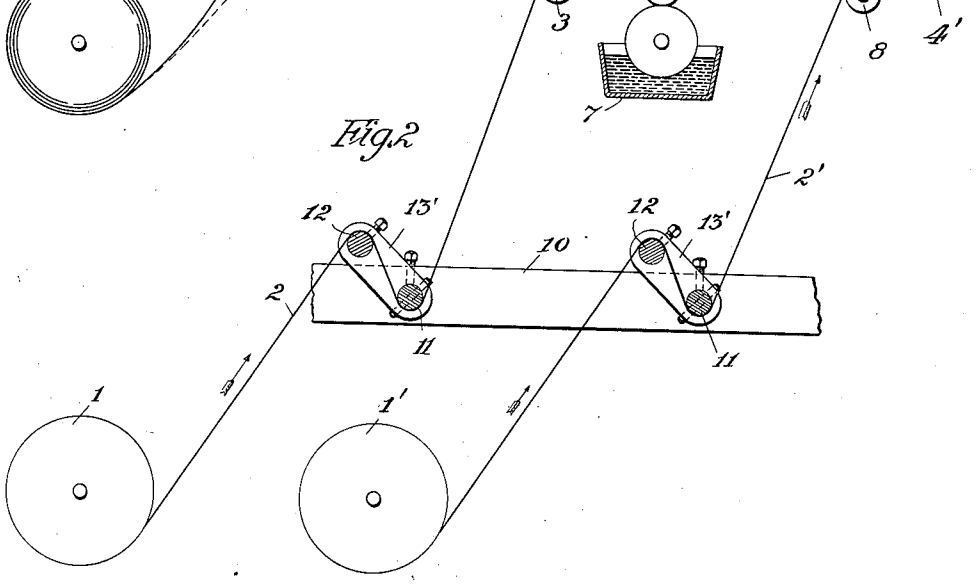
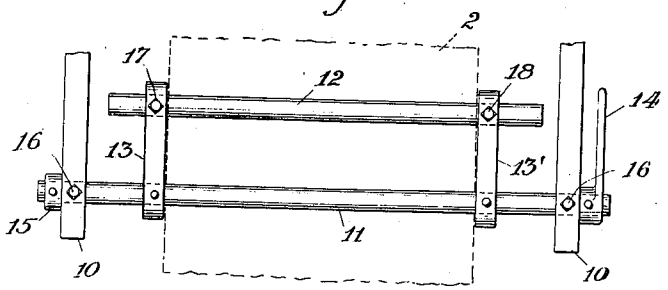


Fig.3



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UNITED STATES PATENT OFFICE.

GEORGE A. JAEGER, OF HACKENSACK, NEW JERSEY.

TRACKER AND TENSION DEVICE.

1,140,460. Specification of Letters Patent. Patented May 25, 1915.

Application filed December 10, 1913. Serial No. 805,746.

To all whom it may concern:

Be it known that I, GEORGE A. JAEGER, a citizen of the United States, and a resident of Hackensack, Bergen county, New Jersey, (whose post-office address is 132–138 Mulberry street, New York city, New York,) have invented a new and useful Tracker and Tension Device, which invention is fully set forth in the following specification.

The invention is intended primarily to be employed in unrolling sheets or strips of paper or the like, but may be employed for other more or less similar purposes. In drawing off a sheet or strip of paper, for instance, from a roll, there is liability, especially if the strip be more than a narrow piece of tape, that one side or the other will run somewhat more freely than the opposite side, or even that the middle portion may pucker, whereas it is most desirable that the entire strip should advance in a direct line and lie perfectly flat and smooth at the point it is to be operated on, as in printing, punching, pasting, or some other treatment applied to the paper.

The object of the present invention, then, is to prevent the strip running askew or becoming puckered, and to cause it to be presented, at the desired point of treatment, in a perfectly alined and perfectly flat and smooth position.

Uniformity of tension as well as true guidance of the edges of the sheet or strip is essential; and the present invention consists of a combined tracker and tension-device to accomplish those purposes.

The invention consists of a laterally-adjustable guide for the strip, constituting a tracker which is axially adjustable to constitute a tension-device.

The invention will be best understood by reference to the accompanying drawings which illustrate a preferred embodiment thereof, and in which—

Figure 1 is a side view, partly in section illustrating a simple arrangement containing a preferred embodiment of the new tracker and tension-device; Fig. 2 is a similar view indicating the simultaneous employment of two of the new devices; and Fig. 3 is a plan view of said tracker and tension-device.

Referring first to Fig. 1, 1 represents a carrying-drum or spindle, upon which is rolled a sheet or strip 2 of paper or the like. The outer end of this sheet 2 is shown as extending (past the tracker and tension-device, to be described) over horizontal rollers 3—3, between which is a platen 4 where the strip is to be acted upon, and thence to a feed-roller or the like, indicated at 5. The platen 4 is shown in Fig. 1 as indicating means for punching holes in the strip 2, as in producing perforated music-rolls; but it will be understood that printing, embossing, pasting, or any other treatment may be applied intermediate the guide-rolls 3—3. It will be further understood that the particular construction of the carrying-drum, platen, guide-rolls, feeding-device, etc., forms no part of the present invention,—these parts being set forth merely to indicate the relative location of the tracker and tension-device, and to illustrate the mode of operation thereof.

Referring to Fig. 2, from one carrying-drum 1, one sheet or strip 2 extends (past its tracker and tension-device) over a guide-roller 3, and thence over the roller 6 of a pasting-device 7, and thence over a second guide-roller 8 and a platen 4′, to a feed-device (not shown). And from a second carrying-drum 1′, a second sheet or strip 2′ (which may be of different material from that of sheet 2) extends, past its own tracker and tension-device, over the roller 8 aforesaid, and thence over the same platen 4′ to the same feed-device just referred to. If the work to be done upon the two sheets consists of pasting them together, as indicated in Fig. 2, a clamping-roller 9 may be provided to coact with the roller 8.

The new tracker and tension-device may be mounted in any convenient location between the carrying-drum and the platen (or other place where the particular work is to be done), the nearer the latter the better. In the drawings the new device is shown as mounted upon the two parallel side-frames 10. It comprises the axially-adjustable

main bar 11 extending transversely of the apparatus and preferably cylindrical, and the parallel (cylindrical) counter-bar 12 carried by the two parallel arms 13—13′ that are separately adjustable longitudinally of the bars 11 and 12, and that act as guide-arms for the sheet 2. The main bar 11 is shown as passing completely through the two frame-pieces 10, and provided at one end with the adjusting-handle 14, and at the other end with a securing-device 15. Set-screws 16 or other similar devices serve to hold the main bar 11 rigidly in any desired axial adjustment. The two bars 11 and 12 fit more or less snugly in equidistant holes in the two arms 13—13′; and set-screws 17—17 and 18—18, or other suitable devices, hold the arms rigidly in any desired longitudinal adjustment upon the bars 11 and 12. Upon loosening devices 17 or 18, or both, the guide-arms can be shifted toward or away from each other so as to fit accurately against each side of the sheet 2 of any convenient width, and also so as to aline the sheet properly with the work to be done at the platen. Or, if desired, by having the main shaft somewhat longer, and shifting it longitudinally of its axis, the entire tracker can be thereby adjusted laterally of the apparatus.

As shown in Figs. 1 and 2, the sheet 2 is passed over the counter-bar 12 and then under the main bar 11, and thence past the platen to the feed-device, as already described. The attendant can vary the tension at will, by loosening the devices 16 and shifting the handle 14 so as to shift the counter-bar 12, as from the position indicated in full lines in Fig. 1 into the position there indicated by dotted lines, or vice versa,—of course tightening the devices 16 as soon as the desired adjustment has been effected.

It will be observed that in the arrangement indicated by Fig. 2, each tracker and tension-device is susceptible of all its adjustments independently of the other device; and, indeed, that the two guide-arms 13 and 13′ need not lie in the same plane, as in some instances it may be desirable to give one of the two arms a somewhat greater axial angle than the other, in order to provide slightly greater tension on one side of the sheet 2 than on the other. It will also be perceived that the new tracker and tension-device can be readily installed, by any skilled workman, in connection with any service where a tracker and tension-device is required, as, for instance, for guiding blankets on a paper or board or lining machine, or upon any other machine using a traveling web or endless-belt conveyer.

The invention has thus been described with considerable detail, but only for the sake of clearness, since the precise construction and arrangement of parts may be varied considerably, and the invention is capable of being embodied in different forms, and parts of the invention may be used to the exclusion of other parts.

Having thus described the invention, what is claimed is:

1. A combined tracker and tension-device, comprising two stationary members, a bar journaled therethrough, set-screws for securing said bar rigidly in place, two guide-arms journaled on said bar and adjustable longitudinally thereof to contact with the respective edges of the sheet or strip of any desired width as lateral guides for the same, a set-screw for holding each arm rigidly in place, a second bar journaled in the outer ends of said arms, and a set-screw for holding the same rigidly to each arm.

2. A combined tracker and tension-device, comprising a bar axially and longitudinally adjustable in stationary bearings, means for securing it rigidly in any desired adjustment, two guide-arms carried by said bar and independently adjustable both axially and longitudinally thereof and adapted to contact with the respective edges of the sheet or strip as lateral guides for the same, independent means for securing said arms rigidly in any desired adjustment, a second tension-bar held adjustably by the outer ends of said arms, and means for securing the same rigidly in any desired adjustment.

3. A combined tracker and tension-device, comprising an axially-adjustable tension-bar, two guide-arms carried adjustably thereby and adapted to contact with the respective edges of the sheet or strip of any sheet or strip as lateral guides for the same, means for securing said arms rigidly in place, and a second tension-bar carried by the outer ends of said arms.

4. A combined tracker and tension-device, comprising two laterally-adjustable arms adapted to contact with the respective edges of the sheet or strip of any desired width as lateral guides for the same, a bar carried thereby and movable for varying the tension, and means for holding said bar rigidly in any desired adjustment.

5. A combined tracker and tension-device, comprising two laterally-adjustable arms adapted to contact with the respective edges of a sheet or strip of any desired width as guides for the same, in combination with a tension-bar movable for varying the tension of said sheet or strip, and means for holding said bar rigidly in any desired adjustment.

6. A combined tracker and tension-device, for use in connection with drawing off a flexible body or strip of any desired width from a roll containing the same, consisting of a frame comprising two parallel guide-

arms independently adjustable in lateral direction and adapted to contact with the respective edges of said strip as lateral guides for the same, adjustable means for varying the tension upon such strip, and means for holding said tension-means rigidly in any desired adjustment.

7. A tracker and tension-device, comprising a laterally-adjustable guide adapted to contact with the edge of a sheet of flexible material of any desired width to guide the same laterally, in combination with means for varying the tension of said sheet, and means for holding said tension-means rigidly in any desired adjustment.

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

GEORGE A. JAEGER.

Witnesses:
C. A. L. MASSIE,
RALPH L. SCOTT.