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CONVEYER AND GUIDE

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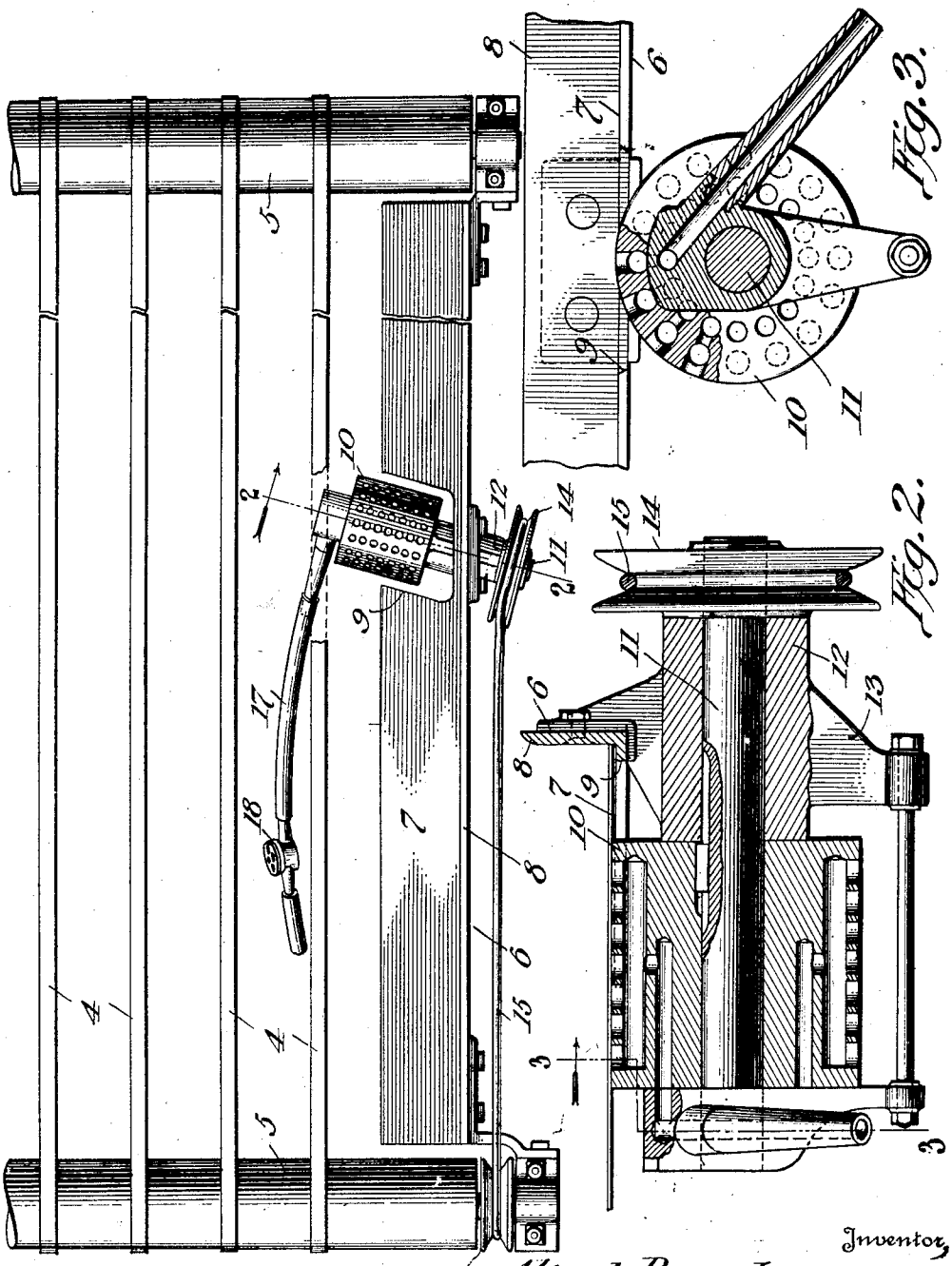

Fig. 1.

Fig. 3.

Fig. 2.

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By

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Patented Sept. 17, 1929 1,728,329

UNITED STATES PATENT OFFICE

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CONVEYER AND GUIDE

Application filed September 21, 1927. Serial No. 220,992.

The present invention relates to conveying and guide mechanism for feeding sheets, the object being to provide in connection with a simple form of conveyer and guide, means for insuring the paper being moved to and maintaining its path along the guide.

In the accompanying drawings:

Figure 1 is a plan view in elevation of the conveyer and guide equipped with the novel mechanism,

Figure 2 is a sectional view on the line 2—2 of Figure 1,

Figure 3 is a detail sectional view on the line 3—3 of Figure 2.

In the embodiment disclosed, sheet conveying mechanism is employed, preferably in the form of endless tapes 4 that pass around rollers 5, which rollers are driven by any suitable means. A guide 6 is located along one side of the set of tapes 4, and preferably consists of an angle bar with a horizontal flange 7 and an upstanding flange 8, the former constituting a support for the margins of the sheets carried by the tapes 4 and the latter acting as the guiding element for said sheets. Any suitable feeding apparatus may be provided for delivering the sheets, one at a time on to the left-hand end of the conveyer.

The horizontal supporting flange 7 of the guide member 6 is cut away, as shown at 9, and in the opening is located a rotatable suction roller 10 that is inclined to the guide flange 8, and to the tapes 4, the inclination being such that the upper face of the roller travels in the direction to urge the sheets towards the guide flange 8. This roller may be of any suitable structure, but as shown is of the type disclosed in my Patent, No. 1,494,303. It is carried by a shaft 11 journaled in a box 12 that forms a part of a bracket 13 secured to the guide 6.

This shaft is provided with a deeply grooved pulley 14, around which passes a drive belt 15, driven by a pulley 16 on one of the conveyer rollers 5. The suction conduit 17 for the suction roller 10 is connected to suitable air exhausting means, not shown, and is preferably provided with a variable relief valve of well known character, shown at 18, so that the force of the vacuum or suction in the roller can be varied in order that the roller may properly operate on sheets of various weights and sizes.

With this construction, it will be evident that sheets delivered to the conveyer will be carried by the tapes in a direction parallel to the guide flange 8 until they arrive over the suction roller 10, whereupon the sheets will be caused to adhere to the upper face of the roller and because of its inclined relation they will be moved over until their edges engage the guide flange 8 and will be maintained against said guide flange, thus being properly positioned for delivery from the conveyer.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim, is:

1. The combination with sheet conveying mechanism and a guide for the sheets conveyed, of a suction roller disposed at an inclination to the conveying mechanism and guide, said roller acting on the margin of the sheet adjacent to the guide to move the sheets to and hold them against the guide, and means for creating suction in the roller to cause the sheets to adhere thereto.

2. The combination with a sheet guide, of a movable conveyer for the sheets and operating parallel to the guide, and a suction roller associated with the conveyer and guide and

inclined to both for moving the sheets toward the guide.

3. The combination with extended sheet conveying mechanism and a guide for the sheets conveyed, of means in addition to said conveying means and located between the receiving and delivering ends thereof for holding the sheets against turning and moving them to and holding them against the guide as they are carried along the same by the conveyer, and driving mechanism engaged with the said holding means for moving the same with the conveyer.

In testimony whereof, I affix my signature.

ALBERT BROADMEYER.