March 8, 1932. O. R. WOLF 1,849,045

DISPATCH CONVEYER FOR NEWSPAPERS OR THE LIKE

Filed Sept. 19, 1929 4 Sheets-Sheet 1

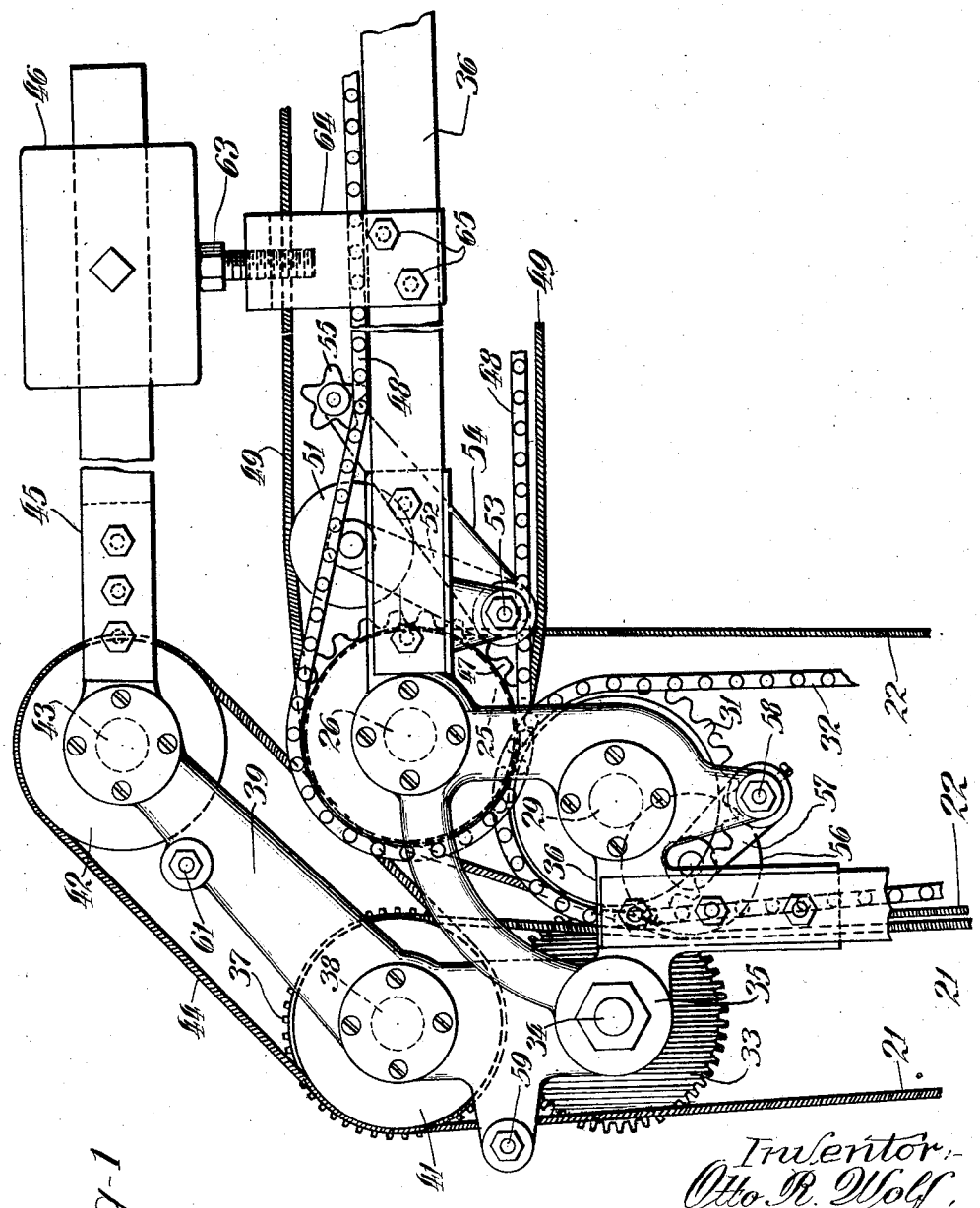


Fig. 1

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DISPATCH CONVEYER FOR NEWSPAPERS OR THE LIKE

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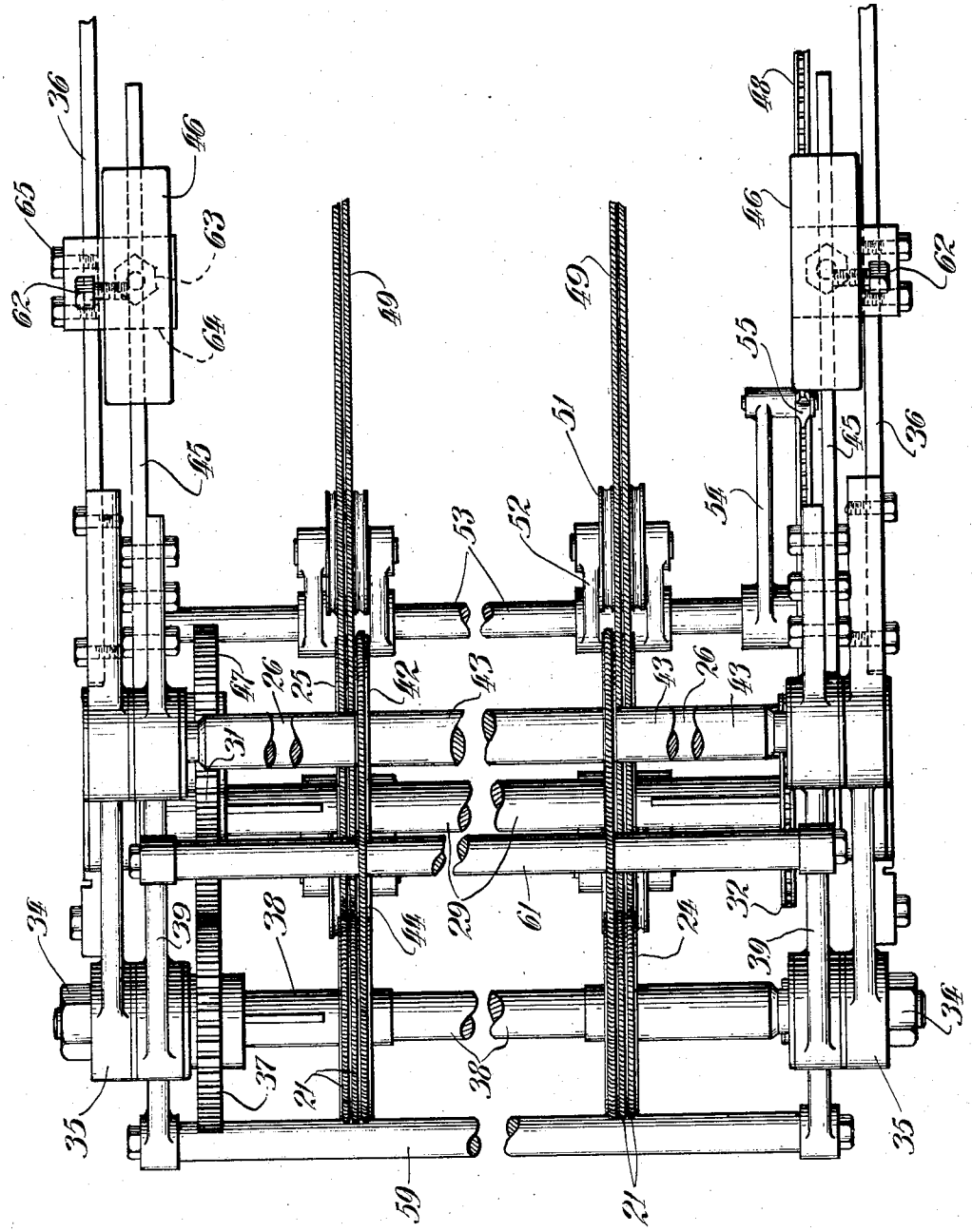


Fig. 2

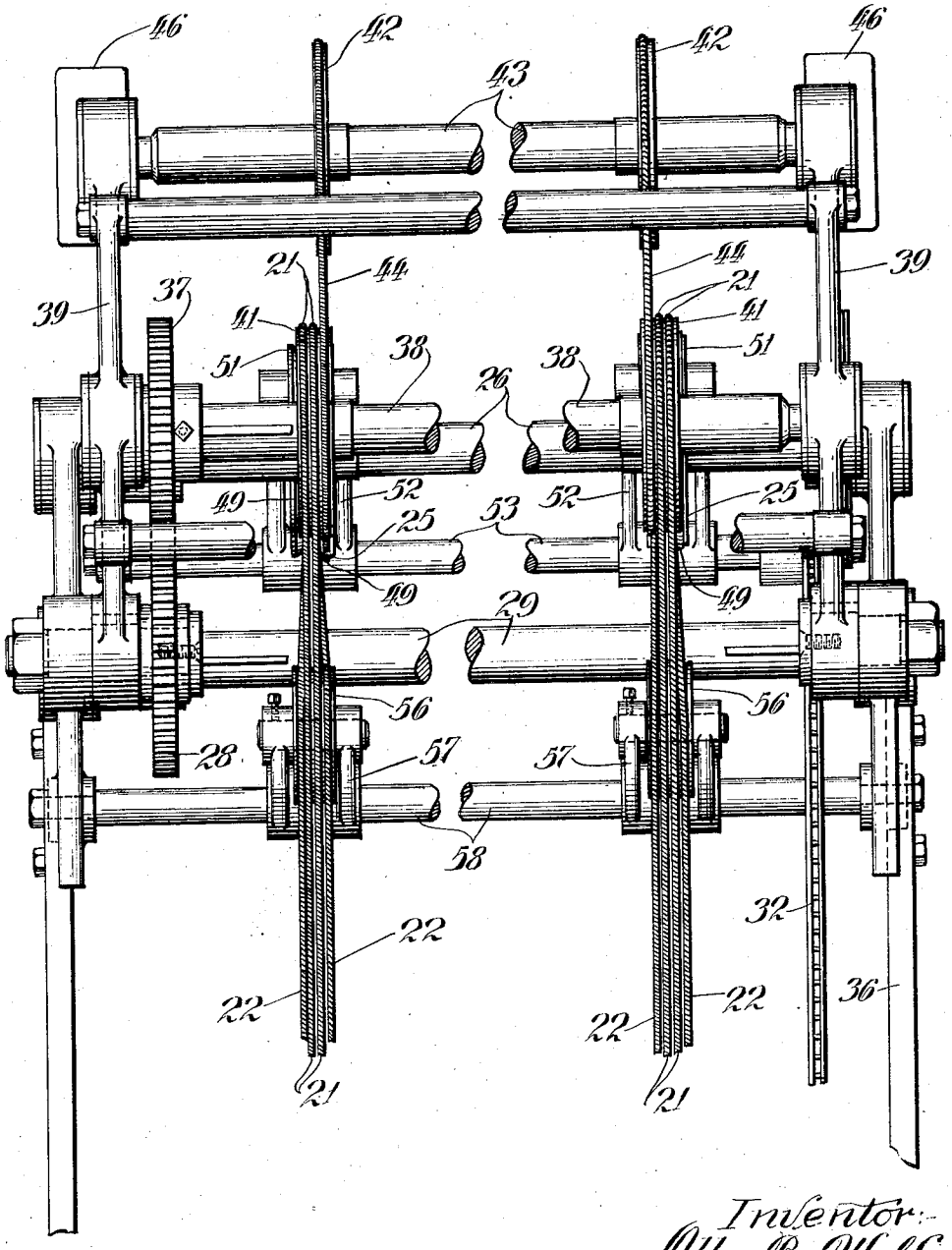
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Fig-3



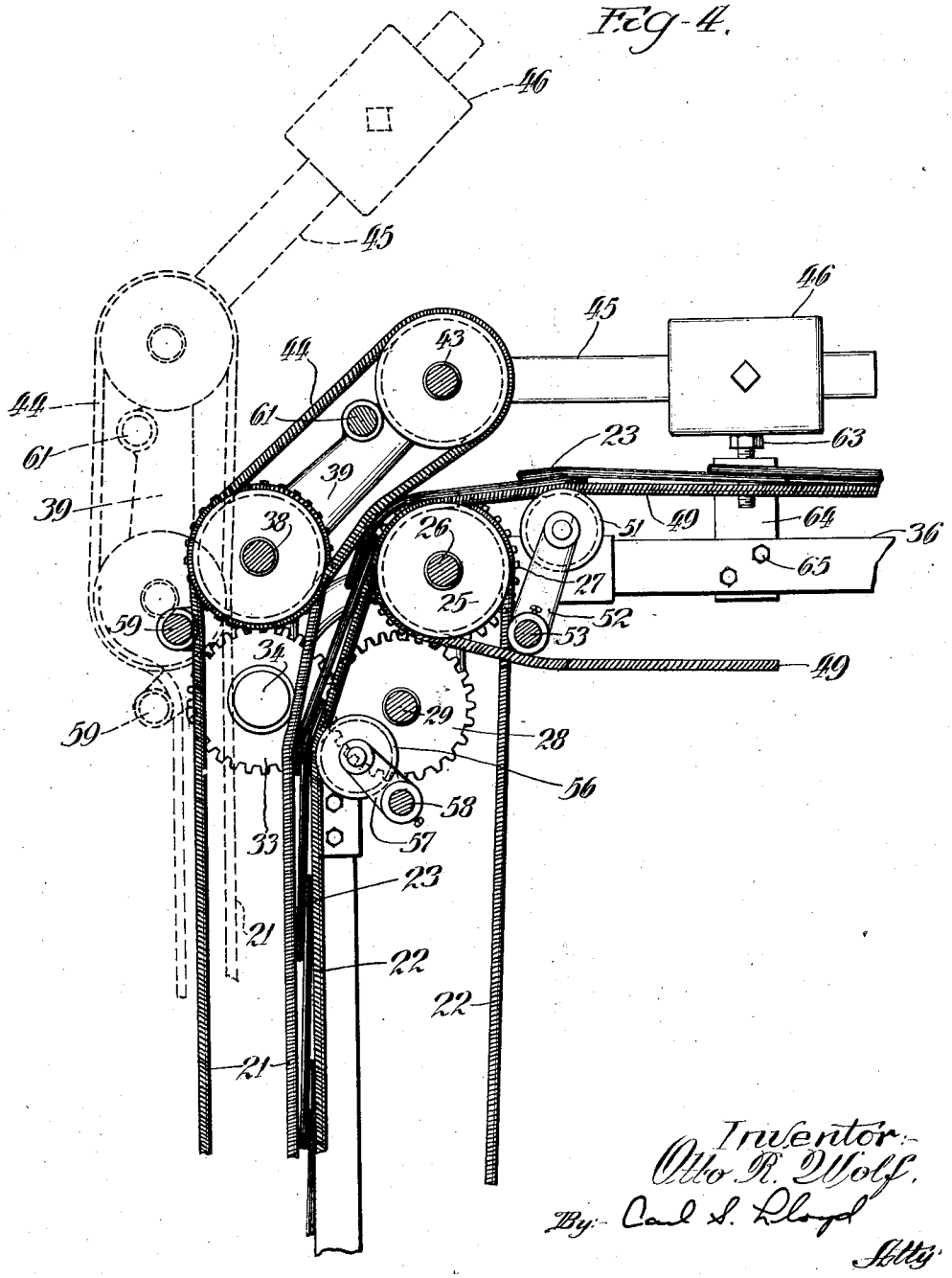
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DISPATCH CONVEYER FOR NEWSPAPERS OR THE LIKE

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Fig-4.



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UNITED STATES PATENT OFFICE

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DISPATCH CONVEYER FOR NEWSPAPERS OR THE LIKE

Application filed September 19, 1929. Serial No. 393,632.

This invention relates to dispatch conveyers for use in newspaper printing plants or like establishments, and has for its primary object the provision of improvements adapted to prevent choke-ups at points where the papers pass around curves in the conveyer system.

Other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a side elevation of a device in which my invention is embodied;

Fig. 2 is a top plan view thereof;

Fig. 3 is a front elevation; and

Fig. 4 is a vertical, sectional and elevational view taken centrally and longitudinally of Fig. 1, this figure showing also in dotted lines the position to which certain of the parts may be moved in case of a choke-up at a curve in the conveyer system.

The part of the conveyer shown in the drawings is that at which the papers are transferred from a vertical to a horizontal section of the conveyer, although it will be understood that the situation is substantially the same and substantially the same mechanism may be used at a point where the transfer is from a horizontal to a vertical section, and it is desired that the claims hereinafter made shall be considered as applicable to any part of the conveyer system where a change in the direction of travel of the papers occurs.

As is best shown in Figure 4, the vertical part of the conveyer consists of adjacent wires 21 and 22, between which the papers 23 are clamped and lifted upwardly as the wires pass around oppositely turning pulleys 24 and 25 at the top of their course of travel. Said wires are ordinarily provided in series across the width of the conveyer, the wires 21 and 22 being matched as shown in Figure 4, and the pairs of matched wires being spaced apart as shown in Figures 2 and 3, which figures, however, are broken away and show only two sets of wires although the number is usually greater in ordinary practice.

The specific form of material used in the conveyer construction is not of particular importance to the invention so long as it is understood that in the vertical flight the papers are carried between two co-acting conveyer members such as the wires 21 and 22, and are delivered onto or are received from a horizontal conveyer which will be presently described.

The pulley 25 is carried upon a shaft 26 which also carries a gear 27 meshing with a gear 28 carried by a shaft 29 which carries a sprocket 31 adapted to be driven from a suitable source of power by means of a chain 32 (see Fig. 1). The gear 28 meshes with a gear 33 mounted on a stud 34 which is journaled in a fixed bearing 35 in a frame 36, said gear 33 meshing with a gear 37 upon a stud 38 carried by an arm 39 which is pivotally mounted upon the stud 34. Said stud 38 carries a pulley 41, which, together with a pulley 42 carried upon a stud 43 in the outer part of the arm 39 supports a tension wire 44 running over said pulleys in the manner of a belt. The arm 39 is provided with an extension 45 which carries a weight 46 for a purpose which will presently appear.

The shafts 26 and 29 are journaled in the frame 36 and the shaft 26 carries in addition to the pulley 25 a sprocket 47 over which a chain 48 is directed, said chain at the opposite end running over a second sprocket (not shown) for the purpose of driving another part of the conveyer.

The horizontal portion of the conveyer above mentioned consists of wires 49 running over the pulley 25 which, as shown in Figure 2, is double and over a pulley (not shown) at the opposite end of the course of travel of said conveyer wires. The horizontal wires are also arranged in series as shown in Figure 2 and may be provided in any desired number, it being understood that they will be driven in synchronism from the same source of power. A guide roller 51 is provided for maintaining the wires 49 at a proper level, said roller being carried upon an arm 52 pivoted at 53 to the frame, the pivot 53 also carrying an arm 54 equipped with a chain tightener 55 engaging the upper

course of the chain 48 to hold the same at proper distance beneath the wire 49.

A guide roller 56 carried by an arm 57 pivoted at 58 to the frame serves to hold the wires 22 of the vertical conveyer section in close proximity to the wires 21, so that the papers will be gripped between the said wires 21 and 22 and carried upwardly to a point of transfer from the vertical to the horizontal sections of the conveyer. Tie rods 59 and 61 are provided between the arms 39 at the opposite sides of the conveyer (see Fig. 2) to hold the structure together. The weights 46 are secured to the arms 45 by means of set-screws 62 and are adapted to rest upon adjusting screws 63 provided in brackets 64 secured by means of screws 65 to the frame 36. By adjusting the screws 63 the position of the arms, 39, 45 may be varied to vary the tension of the wires 44 on the papers.

It will be noted that the upper pulleys 24 and the wires 21 are also carried upon the arm 39 so that adjustment of the latter serves to move said pulleys 24 toward or away from the pulleys 25, thus varying the tension on the wires 21 and 22, between which the papers are carried upwardly.

In the event that there is an accumulation of the papers at the turn in the conveyer, resulting in a choke-up, which, in the past has necessitated stopping the press until such condition could be remedied, the arms 39, 45 will be moved away, carrying the wires 44 and 21 therewith so as to relieve the pressure upon the papers and allow them to be carried on by the conveyer without the necessity of stopping the press and without requiring any action on the part of the attendant. The weights 46 are calculated to provide the desired degree of tension and to permit the wires 44 and 21 to be automatically thrown out of normal position under the circumstances just mentioned. The extent of movement of the arms 39, 45 and associated parts varies, of course, according to the degree of congestion. It will be observed from Figure 4, however, that the wires 21 and 44 may be moved a considerable distance away from the wires 22 and from the inner end of the horizontal conveyer section 49, the parts being adapted to be automaticaly returned to normal position by means of the weights 46 when the congestion is relieved.

By avoiding the delays incident to choke-ups and by providing just the right tension upon the papers in the vertical portions of the conveyer system and at the turn, the device herein described materially increases the efficiency of a newspaper plant and effects considerable savings in time and in labor costs.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention, or sacrificing all of its material advantages, the construction hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A dispatch conveyer for newspapers comprising a vertical section consisting of opposed sets of traveling conveyer members, one set of which is arranged to move toward and away from the other, a horizontal section, and a tension device connected with the movable member of said vertical section for directing the papers around the curve from one of the said sections to the other, said tension device operating under pressure from an accumulation of papers to shift said movable conveyer member to regulate the tension exerted on the papers.

2. A dispatch conveyer for newspapers comprising a vertical section consisting of opposed sets of traveling conveyer members, one set of which is arranged to move toward and away from the other, a horizontal section, a tension device connected with the movable member of said vertical section for directing the papers around the curve from one of the said sections to the other, said tension device operating under pressure from an accumulation of papers to shift said movable conveyer member to regulate the tension exerted on the papers, and adjusting means for regulating the tension exerted on the papers by said tension device.

3. A dispatch conveyer for newspapers comprising a vertical section consisting of two sets of traveling wires between which the papers are adapted to be gripped one of said sets being movable toward and away from the other, a horizontal section co-operating with said vertical section, and means operable under pressure from an accumulation of papers to separate said sets of wires in the vertical conveyer section to relieve congestion in case of a choke-up in the conveyer system, said means comprising a tension device supported on the movable set of the vertical section at the point of juncture of the latter with said horizontal section.

4. A dispatch conveyer comprising a vertical section consisting of a plurality of sets of traveling wires between which the papers are adapted to be gripped, a horizontal section, and a tension device for directing the papers around the curve from one of said sections to the other, said device being connected with one of said sets of vertical wires and being movable under pressure from an accumulation of papers to relieve the tension upon the papers at the curve and to separate said sets of vertical wires whereby the tension exerted by the latter upon the papers may be lessened to relieve congestion in case of a choke-up in the conveyer system.

5. A dispatch conveyer for newspapers, comprising a vertical section, consisting of opposed sets of traveling conveyer members, one set of which is arranged to move toward and away from the other, a horizontal section, and an auxiliary conveyer member, positioned at the juncture of said sections and normally inclined at an angle thereto, said last mentioned conveyer member being connected with the movable member of the vertical section and operating under pressure from an accumulation of papers to adjust the position of the latter to regulate the tension exerted on the papers.

6. A dispatch conveyer for newspapers comprising a conveyer section consisting of opposed sets of traveling conveyer members, one set of which is arranged to move toward and away from the other, a second conveyer section disposed at an angle to said first mentioned section, and a tension device connected with the movable member of said first mentioned section for directing the papers around the curve from one of said sections to the other, said tension device operating under pressure from an accumulation of papers to shift said movable conveyer member to regulate the tension exerted on the papers.

7. A dispatch conveyer for newspapers comprising a conveyer section consisting of two sets of traveling wires between which the papers are adapted to be gripped, one of said sets being movable toward and away from the other, a second conveyer section disposed at an angle to said first mentioned section, and means operable under pressure from an accumulation of papers to separate said sets of wires in the first mentioned conveyer section to relieve congestion in case of a choke-up in the conveyer system, said means comprising a tension device supported on the movable set of the first mentioned section at the point of juncture of the latter with the other conveyer section.

In witness whereof, I hereunto subscribe my name to this specification.

OTTO R. WOLF.