J. J. CURTIS.

CONVEYER.

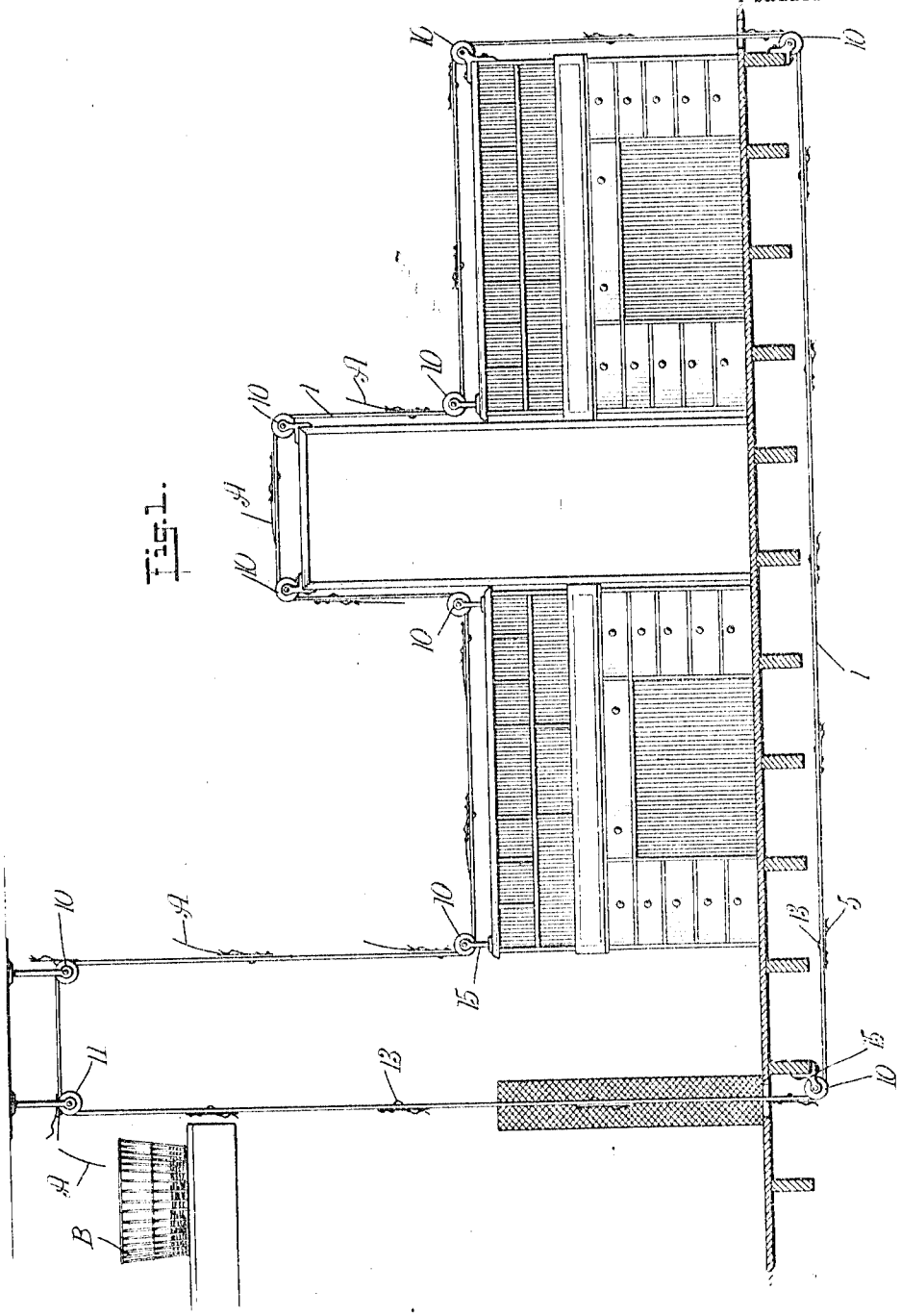
APPLICATION FILED NOV. 23, 1912.

1,079,218.

Patented Nov. 18, 1913.

4 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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4 SHEETS—SHEET 2.

Fig. 2.

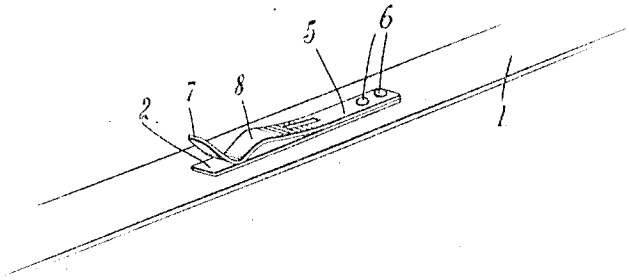
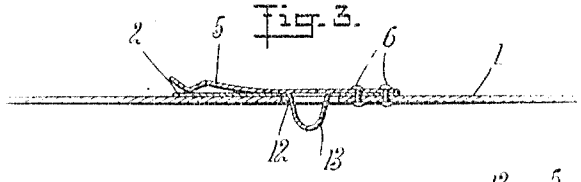


Fig. 3.



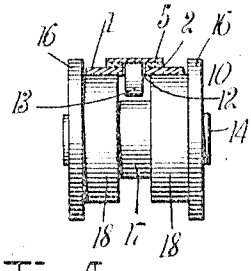


Fig. 4.

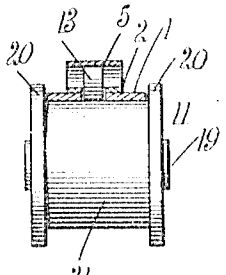


Fig. 5.

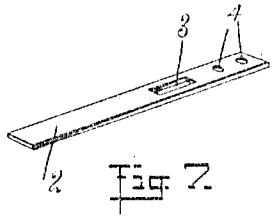


Fig. 7.

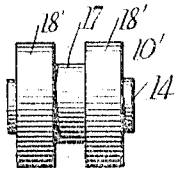


Fig. 6.

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4 SHEETS—SHEET 3.

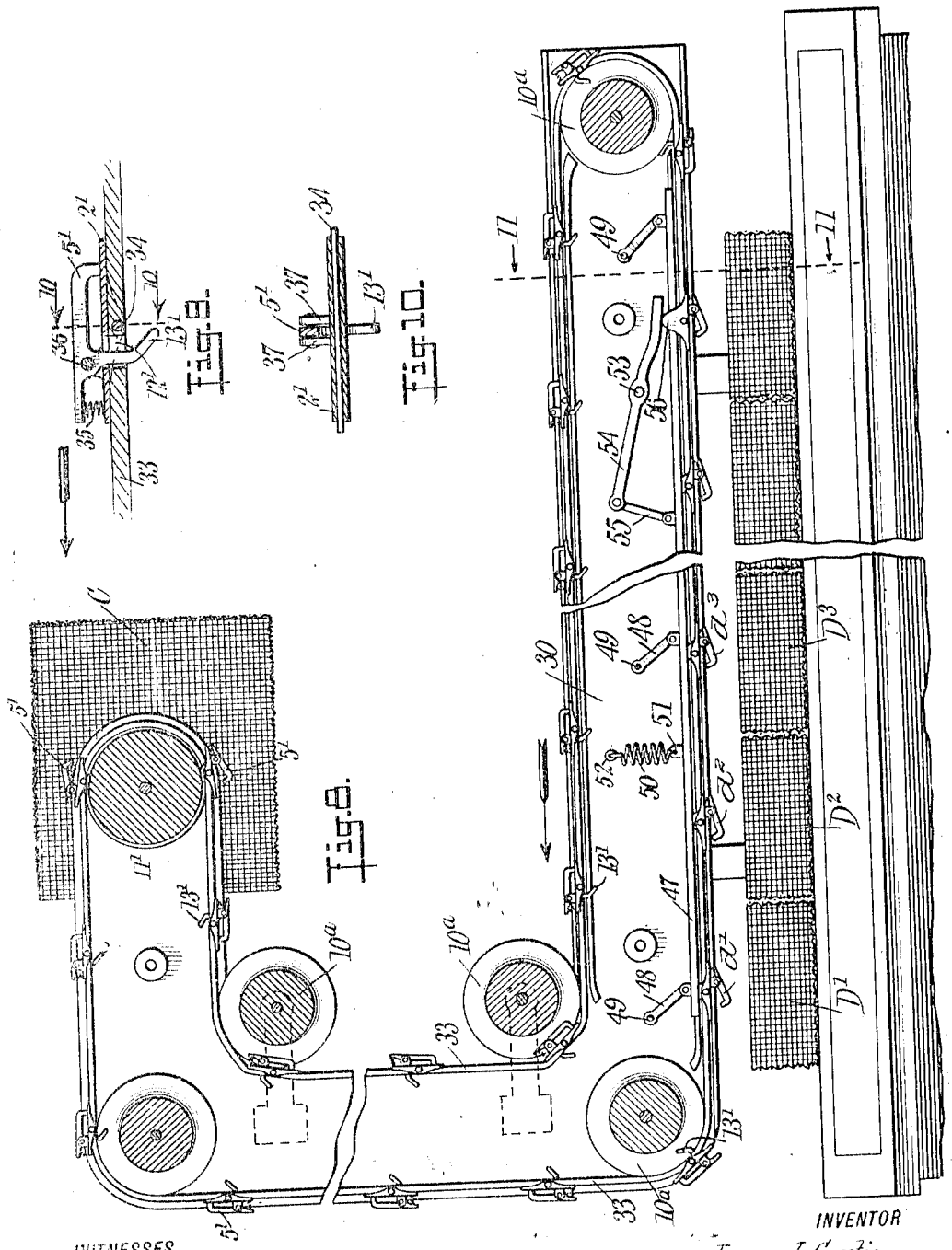


Fig. 9.

Fig. 10.

Fig. 8.

WITNESSES

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4 SHEETS—SHEET 4.

Fig. 11.

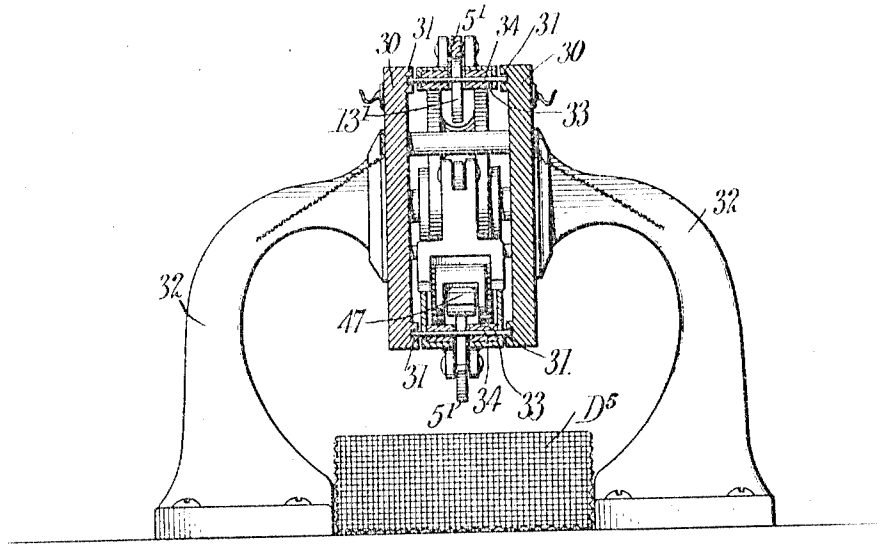


Fig. 12.

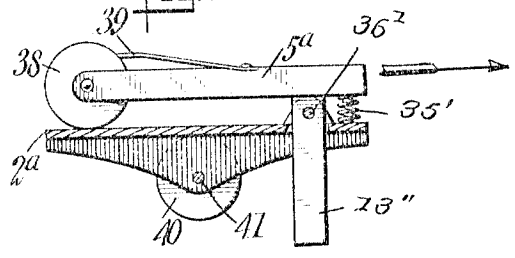
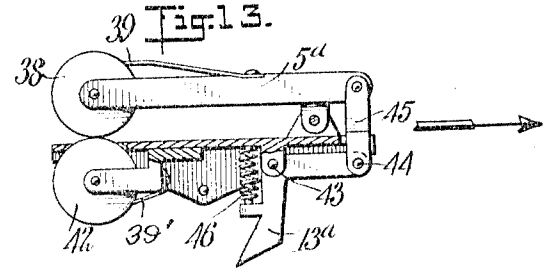


Fig. 13.



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UNITED STATES PATENT OFFICE.

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1,079,218. Specification of Letters Patent. Patented Nov. 18, 1913.

Application filed November 23, 1912. Serial No. 733,107.

To all whom it may concern:

Be it known that I, JAMES J. CURTIS, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Conveyer, of which the following is a full, clear, and exact description.

My invention relates generally to conveyers and more particularly it is directed to a new and improved construction especially adapted for transferring printed or written sheets from a number of places to a suitable receptacle, such as a basket or equivalent device.

One object of my invention is to provide a new and improved conveyer construction comprising essentially an endless belt or equivalent device with a plurality of clamps thereon, together with suitable pulleys or equivalent elements around which the belt passes, certain of the pulleys being so constructed that the printed sheets held in clamps are not displaced therefrom, there being another pulley for opening the clamp whereby the sheet carried thereby may be deposited in a suitable receptacle.

A further object of the invention is the production of a conveyer characterized by one or more series of selective clamps for holding printed or written sheets, with means for coöperation with the clamps, whereby a printed or written sheet carried by a certain clamp of any series will always be deposited in or at a certain one of a corresponding series of selective receptacles or stations.

Other objects and advantages of the invention will appear as the description thereof proceeds, the new and useful features being particularly pointed out in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a side view of a number of desks or stations with the conveyer system in operative position, the view shown indicating one use of the invention; Fig. 2 is a perspective view of a portion of the endless belt with one of the clamps thereon; Fig. 3 is a vertical longitudinal sectional view through the belt and the clamp; Fig. 4 is a side view of one form of pulley with the conveyer belt and clamp in operative relation thereto; Fig. 5 is another form of pulley with the belt and clamp in engagement therewith, the clamp being opened; Fig. 6 is a third form of pulley adapted to be used with the conveyer; Fig. 7 is a perspective view of the inner element of the clamping device, Fig. 8 is a side view of a modified construction, showing means whereby a sheet carried by one of the clamps will always be deposited in a given receptacle; Fig. 9 is a vertical sectional view of the conveyer, showing the modified clamp; Fig. 10 is a vertical sectional view on the line 10—10 of Fig. 9; Fig. 11 is a vertical sectional view on the line 11—11 of Fig. 8; Fig. 12 is a partial vertical sectional view of another form of clamp, the view being from the opposite side of the belt from that of Fig. 9, and Fig. 13 is a similar view of still another form of clamp.

The conveyer system herein described and claimed may be made in various lengths and may be adapted to a variety of uses.

Fig. 1 illustrates the system in use in an office, such as a newspaper or telegraph office, the use of the device being to transmit copy from various desks to a common station or receptacle, such as a basket, the copy being deposited in the basket, suitable means being provided for releasing the copy from the clamping device carried on the conveyer belt. The belt 1, which may be of any suitable material, is flexible, whereby it may pass around a number of pulleys, the clamps, a plurality of which are secured to the belt by suitable means, being adapted to be made of stampings, whereby a structure of low cost is provided. Each clamp is made up of an inner element 2, preferably provided with a slot 3 intermediate of its ends, together with a number of openings 4 adjacent one end; the outer element 5 of each clamp is provided with suitable recesses adjacent one end adapted to receive fastening devices 6 passing also through the openings 4 in the inner element of the clamping device and through the belt, whereby the two elements are held in position, normally in contact, as shown particularly in Fig. 2.

The outer element 5 has its free end 7 preferably outturned, and the intermediate portion 8 also preferably bent as illustrated, whereby lifting of the outer end of the element will permit any written or printed

closed in Figs. 8 and 11. The arm 13'' in this construction is rigidly secured to the outer member 5^a of the clamp and through it said member is pivoted at 36' to the inner member. A spring 35' serves to normally maintain the wheel 38 in engagement with the inner member. As the conveyer belt carries the clamp along its journey, the inner end of the arm 13'' is brought into coöperation with the tripping mechanism whereby such end is moved toward the axis of the rollers 40 and the wheel 38 is swung outward with relation to the inner member.

The clamp shown in Fig. 13 is a modification of that shown in Fig. 12, and embodies the wheel 38 and the pawl 39, but a second wheel 42 coöperates with the first wheel 38 rather than the inner member 2^a; the wheel 42 is limited in its rotation in one direction by means of a spring pawl 39' which is similar to but shorter than the pawl 39 above described. A message introduced between the wheels 38 and 42 operates both of them freely in one direction, but the frictional grip between the wheels and the message will hold the message firmly under ordinary conditions until the clamp is opened in the prescribed manner. In this instance the arm 13^a which is engaged by the roller 11' in order to open the clamp, consists of a bell crank lever pivotally mounted at 43, the forward end of one arm thereof being pivotally connected at 44 to a link 45 which engages the front end of the outer part 5^a of the clamp. The pressure between the wheels 38 and 42 is maintained by means of the spring 46. The direction of movement of the parts shown in Figs. 8, 9, 12 and 13 is as indicated by the large arrows.

The structure shown in Figs. 8 and 11 contemplates that a message applied to and carried by a particular clamp of any series of selective clamps will be returned to or delivered at a particular station or receptacle; that is, the selective stations of a series, among which messages are to be distributed, may be known by number or distinguishing characters, such as D', D^2, etc., and each series of clamps may be correspondingly numbered or indicated, as by letters d', d^2, etc. The distinguishing characters appearing on or adjacent the several clamps, an operator at any convenient place along the line of the device, beyond the roller 11', desiring for instance to transmit a message for automatic delivery at say station D^2, will attach it to any clamp marked d^2 as it comes along. Referring particularly to Fig. 8, it will be noted that between the sides 30 of the supporting structure of the conveyer is a longitudinally extending bar 47 which is pivotally engaged with links 48 at the outer ends thereof, these links being pivotally mounted at 49 to the said sides 30; the bar 47 is maintained in an uppermost position by means of a spring 50, one end of which engages a suitable lug or boss 51 carried by the bar, the other end being fixed at 52 to the said side 30. In order to move the bar 47 at certain times the following structure is availed of: A lever pivoted at 53 between its ends has one arm 54 in pivotal engagement with a link 55 which is attached to the said bar; the other arm of this lever is free and is adapted to be engaged by a lug 56 carried by the belt when the lug comes in position as shown in Fig. 8, said lug 56 being pertinent to the series of selective clamps d', d^2, etc. The aforesaid stations D', D^2, D^3, etc., are spaced correspondingly to the spacing between clamps, so that all of the clamps of a series will always be opened simultaneously and deposit any messages carried thereby at the corresponding stations when the lug 56 comes into engagement with the arm of the lever acting upon the bar 47.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:—

1. The combination of an endless belt, a plurality of rollers, a plurality of clamps carried by the belt, each clamp embodying a plurality of members, one of which is provided with an inwardly extending arm, the intermediate portion of some of the rollers being removed whereby the arm may pass therearound and out of engagement therewith, together with another roller with which the inwardly extending portion is adapted to engage whereby the jaws of the clamp are moved away from each other relatively.

2. The combination of an endless belt, a plurality of clamps secured to the belt, each clamp being made up of two members, one of the members being provided with an inwardly extending arm, slots being formed in the belt through which the arms project, a plurality of rollers around which the belt passes, the intermediate portion of some of the rollers being removed, whereby the clamps may pass thereover, with the arms out of engagement with such rollers, and another roller with which the arms engage, whereby the jaws of the clamps are moved relatively from each other, whereby articles carried by the clamps may be released therefrom.

3. In combination with an endless belt and a series of selective clamps thereon, means for opening all of the clamps of such series when they come to certain selective stations corresponding to said clamps, substantially as set forth.

4. In a conveyer, the combination of an endless belt, a series of selective clamps carried by the belt in spaced relation to one another, a series of selective receptacles adjacent which the series of clamps are carried

