

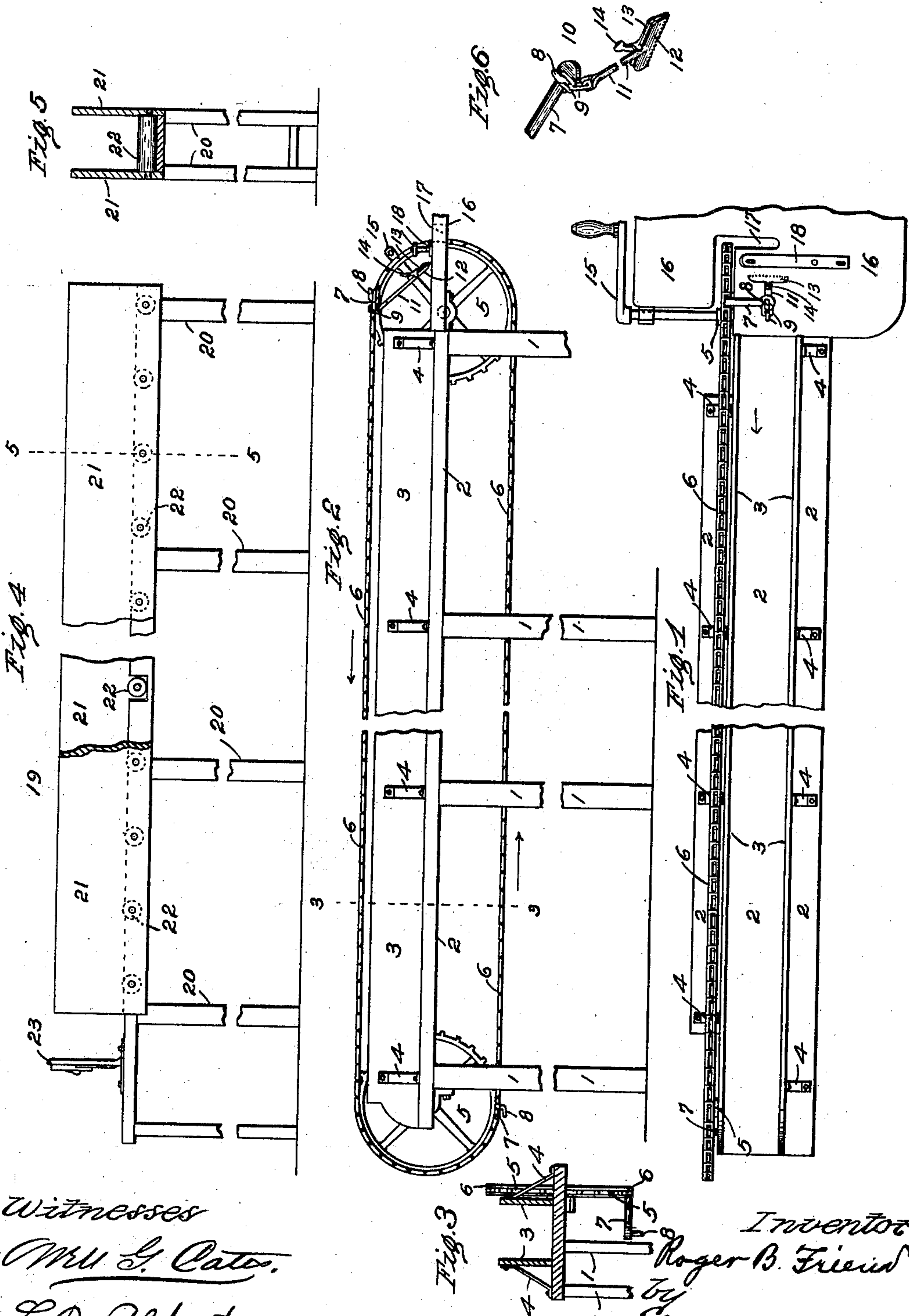
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R. B. FRIEND.
MACHINE FOR HANDLING MATERIAL.

APPLICATION FILED DEC. 13, 1902.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

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MACHINE FOR HANDLING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 756,951, dated April 12, 1904.

Application filed December 13, 1902. Serial No. 135,081. (No model.)

To all whom it may concern:

Be it known that I, ROGER B. FRIEND, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Machines for Handling Material; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a machine for handling paper, and particularly to a machine for transporting and packing folded paper; and some of the objects of the invention are to provide a machine of this general character which will be simple in construction and efficient for the purpose intended.

Another object of the invention is to provide a machine constructed to retain or secure the paper while the same is being handled.

A further object of the invention is to provide for the handling of a plurality of portions of paper in interlocked relations or in such a manner that the fold of the paper being transported will engage the fold of that which has been conveyed to the proper position.

With these and other objects in view the invention consists, essentially, in the construction, combination, and arrangement of parts, substantially as more fully described in the following specification and as illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a top plan view of the receiving device. Fig. 2 is a side elevational view of the same. Fig. 3 is a transverse sectional view of the receiving device, taken on line 3 3 of Fig. 2. Fig. 4 is a side elevational view, partly broken away, of the packing or storing device. Fig. 5 is a transverse sectional view of the same, taken on line 5 5 of Fig. 4; and Fig. 6 is a fragmental detail view of the conveyer.

Similar characters of reference designate corresponding parts throughout the several views.

Referring to the drawings, and particularly

to the construction illustrated in Figs. 1, 2, 3, and 6 thereof, the reference character 1 designates legs or supports whereon is secured a plate or board 2, supporting vertical parallel side pieces 3, which are retained in position preferably by angle plates or brackets 4, so that the parts just described constitute a trough for the reception of the material, which is preferably folded longitudinally when received or introduced thereinto. Sprocket or other wheels 5 may be mounted at each end of the trough or receiving device just described, and over said wheels passes a sprocket-chain or belt 6, carrying an arm or a plurality of arms 7, provided with a hook or pin 8 to detachably receive an eye or link 9, formed on or connected with a conveyer 10, preferably embodying a shank or rod 11, carrying a jaw 12, against which operates a spring-actuated jaw 13, actuated by a lever or extension 14, as will be readily understood. The wheels 5 may be rotated in any suitable manner; but a crank 15 is here shown as one form of means for this purpose, and formed on or connected with one end of the trough is a receiving table or platform 16, suitably cut away, as at 17, to permit of the passage of the arms 7 as the same pass around with the sprocket-chain 6 during the operation of the machine.

Any suitable clamping device may be employed at the receiving end of the apparatus to secure and retain the material within the machine, and the device herein shown embodies two parallel spring-arms 18, secured upon the table or platform 16, constructed, respectively, to receive and retain the folded material at one end when the same is drawn into the trough or receiving device by the action of the conveyers 10, as subsequently more fully explained.

The material is passed upon the receiving-table 16 from any suitable folding-machine, and the conveyer is attached to one end of the folded material below the upper layer or fold thereof, whereupon the crank 15 is turned and the folded material is dragged along through the trough until the conveyer reaches the opposite end thereof, when the clamp or secur-

ing device 18 is attached to the other end of the folded material at the receiving end of the apparatus, also beneath the upper layer or fold thereof, whereupon the conveyer is dis-
 5 connected from the carrying-arm 7 and the other arm 7 is brought into position above the receiving-table 16 by further turning said crank, and another conveyer is likewise at-
 10 tached to another lot of folded material and is secured to the second arm, whereupon by further rotation of the crank the second lot of material is progressed through the trough, preferably in such a manner that the upper loose sheet or layer of the first folded mate-
 15 rial will engage the lower loose sheet or layer of the second lot of material, which is likewise secured at one end thereof by the clamp 18 when directly over the first lot of material, and this process or operation is repeated un-
 20 til a sufficient number of lots of material have been placed within the receiver or trough.

It will be understood that this invention is particularly constructed and designed for employment in conjunction with a machine which
 25 folds a plurality of strips of material in each operation and delivers simultaneously a plurality of interlocked strips of material at a time.

After a sufficient quantity of material has
 30 been progressed into the receiving device or trough, substantially as just described, then the same is dragged or transported into the cutting trough or table 19, which is supported on legs 20 and is provided with sides 21 and
 35 with bottom rollers 22 to facilitate the transportation or movement of the material through the trough, which movement may be accomplished by any suitable mechanical means (not shown) or by hand.

40 The material may be moved through the cutting trough or table under a knife or cutting device 23 of any suitable construction, by means of which the material may be cut up into suitable lengths, according to the re-
 45 quirement of the trade or the purposes for which the material is intended to be used.

The operation of this invention will be readily understood from the foregoing description when taken in connection with the ac-
 50 companying drawings and the following explanation thereof: The conveyer is attached to one end of the folded material below the upper layer or fold thereof, and the crank 15 is turned until the conveyer reaches the other
 55 end of the trough, whereupon the conveyer is disconnected from the carrying-arm and the crank or handle is turned a little farther to bring the second carrying-arm up over the receiving end of the trough, when another con-
 60 veyer is attached to a second lot of material, which is likewise drawn through the trough, preferably in such a manner that the uppermost free layer or fold of the first lot of material will engage with the lowermost free
 65 fold of the second lot of material, both of

which lots are secured at the receiving end of the apparatus, as aforesaid, by the clamping device 18, and the operation is repeated until a suitable number of lots of material have
 70 been located in the receiving device or trough. Then the lots of material are transported or moved within the cutting-trough, where the material is cut up into the desired length by means of the cutting device 23, substantially
 75 as before explained.

It is not desired to confine this invention to the specific construction, combination, and arrangement of parts herein shown and described, and the right is reserved to make all
 80 such changes in and modifications of the same as come within the spirit and scope of this invention.

I claim—

1. A machine for handling folded material provided with a receiving device for the folded
 85 material, a conveyer constructed to receive and retain one end of said folded material and means for operating said conveyer.

2. A machine for handling folded material provided with a receiving device for the folded
 90 material, an endless traveling element, a device carried by said element constructed to receive and retain one end of said folded material and means for operating said element.

3. A machine for handling folded material
 95 provided with a receiving-trough, sprocket-wheels, a sprocket-chain passing thereover, and a conveyer detachably connected with said chain constructed to receive and retain one end of said folded material and means for
 100 operating said chain.

4. A machine for handling folded material provided with a receiving device, sprocket-
 105 wheels, sprocket-chains passing thereover carrying arms, and a conveyer detachably connected with said arm to progress the material through said device.

5. A machine for handling folded material provided with a receiving device, a clamping
 110 device and a conveyer to progress the material and to retain one end thereof while clamped by said device.

6. A machine for handling folded material provided with a receiving device, a clamp for
 115 one end of the material, a traveling element carrying an arm at predetermined points thereon and a conveyer detachably connected with said arm to progress the material through said device and to retain one end thereof while
 120 clamped.

7. A machine for handling folded material, provided with a receiving-trough, wheels
 125 mounted at the ends thereof, an endless device passing over said wheels and carrying an arm, a conveyer detachably connected with said arm and constructed to engage the folded material and draw the same through said trough when said device is actuated, means for actuating
 130 said device and means for clamping the opposite end of the paper.

8. A machine for handling folded paper provided with a trough, wheels mounted at the side and adjacent to the ends thereof, an endless device passing over said wheels, means for
5 actuating said device, arms carried by said device having a hook, conveyers detachably connected with said hooks and constructed to engage one end of the folded material and transport the same through the trough and to be
10 disengaged from said hook at the completion of the movement of the material and a clamp to retain the other end of the material.

9. A machine for handling folded material provided with a trough, wheels mounted at the
15 side and adjacent to the ends thereof, means for actuating said wheels to propel said device, arms carried by said device having hooks, con-

veyers having a clamp to engage the folded material below the upper fold thereof and draw the same into the trough and be dis- 20 engaged from said arm when the movement of the material is completed, and a stationary spring-clamp at the receiving end of the trough to retain the other end of the material below the upper fold thereof. 25

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 6th day of December, 1902.

ROGER B. FRIEND.

Witnesses:

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L. B. ALDERETE.