

949,835.

Fig. 1.

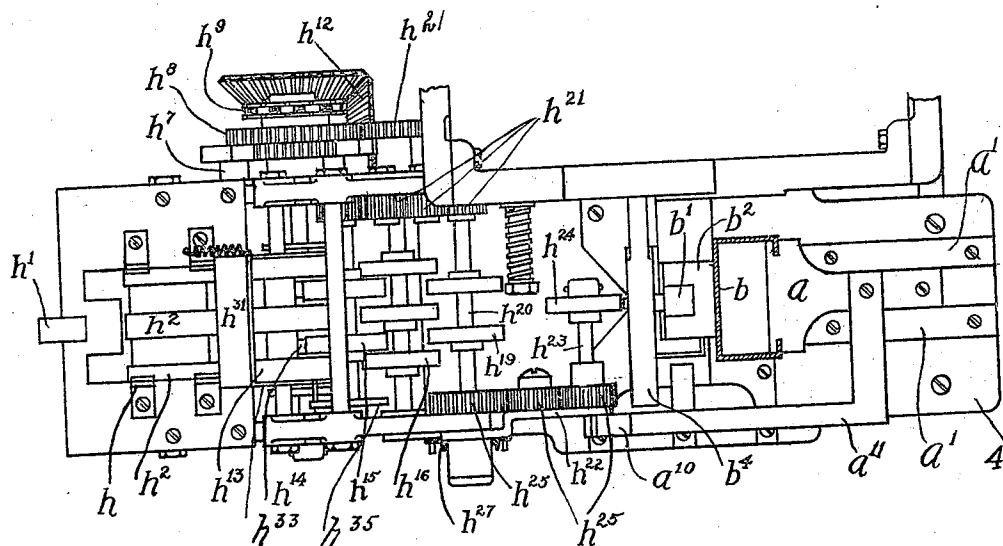
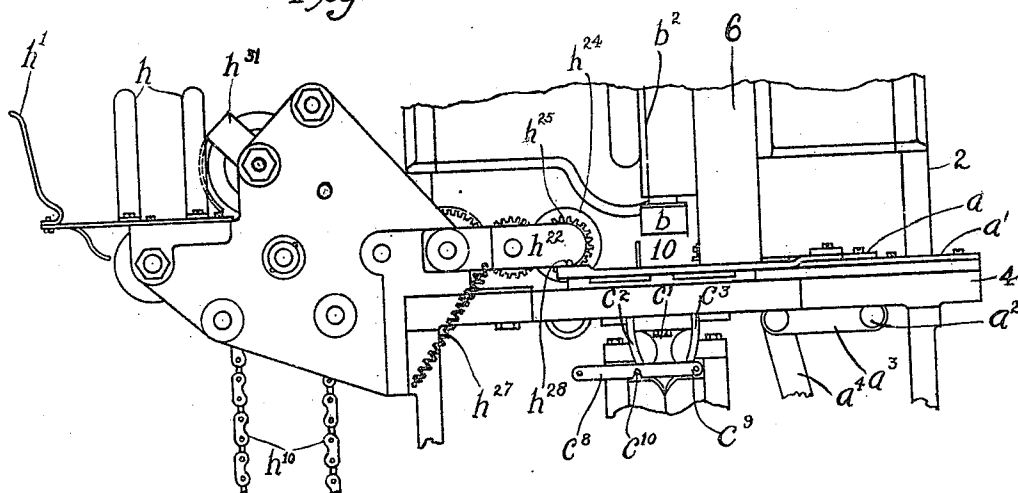


Fig. 2.

Theodore G. McGirr
Inventor

Witnesses:
Walter B. Raymond
Edward H. Enberg.

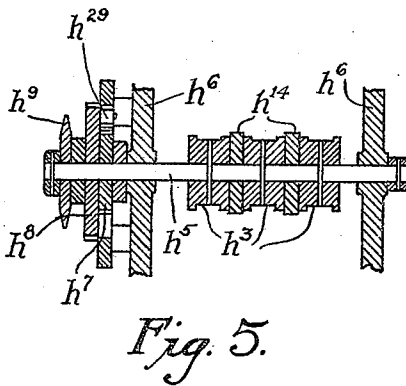
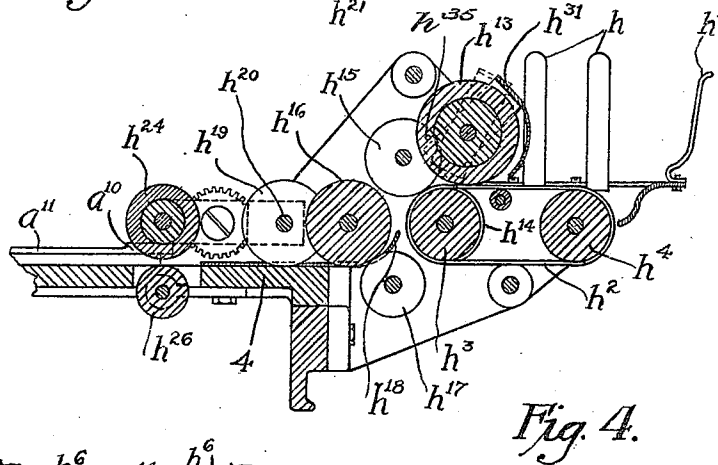
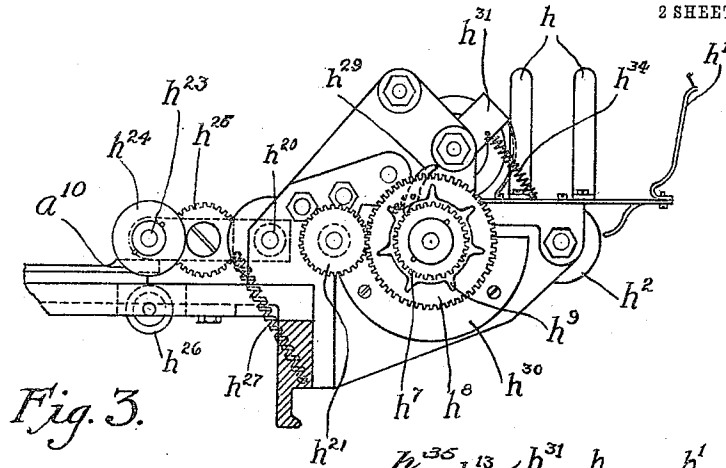
Samuel J. Watson.
By His Attorney

T. G. McGIRR.
SHEET FEEDING MECHANISM.
APPLICATION FILED APR. 16, 1909.

949,835.

Patented Feb. 22, 1910.

2 SHEETS—SHEET 2.



Witnesses:

Walter B. Raymond
Edward H. Enberg.

Theodore J. McGirr.

Samuel J. Watson, Jr.
Inventor
Attorney

UNITED STATES PATENT OFFICE.

THEODORE G. MCGIRR, OF NEW YORK, N. Y., ASSIGNOR TO ACME WRAPPING MACHINE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SHEET-FEEDING MECHANISM.

949,835.

Specification of Letters Patent.

Patented Feb. 22, 1910.

Original application filed February 2, 1909, Serial No. 475,690. Divided and this application filed April 16, 1909. Serial No. 490,313.

To all whom it may concern:

Be it known that I, THEODORE G. MCGIRR, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented a new and useful Sheet-Feeding Mechanism, of which the following is a specification.

This invention relates to mechanism for feeding sheets one by one from a stack or pile, and consists of features of construction and combinations of devices hereinafter described and more particularly pointed out in the appended claims.

This invention is embodied in the machine illustrated in the accompanying drawings, forming part hereof, in which—

Figure 1 is a side elevation; Fig. 2 is a plan view; Fig. 3 is a side elevation from the side opposite to that shown in Fig. 1; Fig. 4 is a vertical section; and Fig. 5 is a detail view.

The sheets, which may be printed on one or both sides, and which may be labels for packages of goods, are stacked in the guideway formed by the fingers h and h' and rest upon the belts, h^2 , of rubber or other suitable material; and running upon the pulleys, h^3 , h^4 . The pulleys, h^3 , are fast upon a shaft, h^5 , which is journaled in the side frames, h^6 , and forms the driving member of the combination. The said shaft, h^5 , has fast thereon a ratchet wheel, h^7 , and the said shaft, h^5 , alongside the ratchet wheel, h^7 , carries a gear wheel, h^8 , which is loose thereon. The gear, h^8 , carries a spring-pawl, h^{20} , pivoted thereon, which is adapted to engage with the wheel, h^7 , aforesaid. The tail of this pawl extends beyond the periphery of the gear, h^8 , and is adapted to coact with a cam, h^{30} , so as to be disengaged, while in contact with said cam, from the said wheel, h^7 , whence it results that the continuous motion of the gear, h^8 , gives only an intermittent motion to the pulleys, h^3 , and the parts operated thereby. The gear, h^8 , is rigidly connected with a sprocket wheel, h^9 , and is free to turn on the shaft, h^5 . The sprocket, h^9 , is driven by a chain, h^{10} , from a suitable part of the mechanism (not shown). Above and coacting with the belts, h^2 , are stationary disks, h^{13} ; and between the pulleys, h^3 , aforesaid are disks or rollers, h^{14} . The disks, h^{14} , project beyond the belts, h^2 , and coact with friction disks,

h^{15} , whose peripheries are covered with soft rubber or other suitable friction material to feed the sheet forward and down between the rollers, h^{16} , h^{17} , a guide, h^{18} , being employed to guide the forward end of the sheet down between the rollers, h^{16} , h^{17} , and to direct the said sheet along the table, 4, and under the feed rolls, h^{19} . The rollers, h^{19} , are fast upon a shaft, h^{20} , which is driven from the gear, h^8 , by a train of gearing, h^{21} . The shaft, h^{20} , forms the axis of motion of the lever, h^{22} , at the free end of which lever is a rotary shaft, h^{23} , on which is fast a roller, h^{24} . The shaft, h^{23} , is driven from the shaft, h^{20} , by the train of gears, h^{25} . Directly under the drop roller, h^{24} , is placed a roller, h^{26} in a slot or opening in the table, 4. The lever, h^{22} , is normally drawn downward by the spring, h^{27} . Near its end, the lever, h^{22} , is provided with a pin, h^{28} , which coacts with the cam, a^{10} , on an arm a^{11} extending from the pusher a . For the purpose of agitating the sheets in the guide, h , an agitator, h^{31} , is journaled upon the axis of the disk, h^{13} , aforesaid and is provided with an extension, h^{33} , the latter being for coaction with the cam or finger, h^{35} , which lifts the agitator. The sheets in the guide, h , have their front edges against the agitator, h^{31} , and as this agitator is lifted by the cam, h^{35} , it lifts the front edges of the sheets and thereby produces a separation or loosening thereof. The cam or finger, h^{35} , is on the shaft of the friction disks, h^{15} , and co-acts with the extension, h^{33} , to lift the agitator as above described. The agitator may be returned to normal position by gravity or by a spring, h^{34} . The cam, h^{30} , may be adjustable as to position and length.

The references 2, 4, 6, 10, a , a^1 , a^2 , a^3 , a^4 , b , b^1 , b^2 , b^4 , c^1 , c^2 , c^3 , c^8 , c^9 , c^{10} , mark parts which form part of the wrapping machine described and claimed in my application filed February 2, 1909, Serial No. 475,690, of which application the present application is a division; hence, these parts need not here be described, except as follows:—The slide a is provided with an arm a^{11} , thereon, which arm has a cam a^{10} thereon for raising and lowering the drop-roller, h^{24} , above described.

The operation of the sheet-feeding devices is as follows:—At the periodic operation of the pawl and ratchet mechanism con-

necting the shaft, h^5 , with the gear, h^8 , the bottom sheet of the stack is carried forward by the pulleys and belts under the fixed or stationary combing or gage disks, h^{13} , and
 5 between the feed rolls, h^{14} , h^{15} , and thence downward between the feed rolls, h^{16} , h^{17} , along the guides, h^{18} , and under the feed rolls, h^{19} , the printed face of the sheet being downward. When the pusher a is at the
 10 end of its return, the cam a^{10} , coacting with the pin, h^{28} , has raised the roller, h^{24} , out of contact with the roller, h^{26} , and the sheet or label fed forward by the roller, h^{19} , rests upon the roller, h^{26} . As the pusher a begins
 15 to move forward on its operative stroke, and as soon as the cam, a^{10} , releases the roller, h^{24} , and allows it to drop, the continuously rotating roller, h^{24} , coacting with roller, h^{26} , feeds the label forward under the plunger b
 20 aforesaid and against a fixed portion of the machine so that, on return stroke of the pusher a , the sheet is retained in position.

What I claim as new and desire to secure by Letters Patent of the United States is—
 25 1. The combination with means for holding a package of loose sheets, tapes under

said sheets, means for driving said tapes intermittently, a gage device coacting directly with said tapes to hold all but the bottom sheet, intermittently acting feed rolls 30 receiving the sheets from said tapes, and continuously moving feed rolls to which said sheets are delivered thereby.

2. In sheet-feeding mechanism, the combination of holders for a pack of sheets, intermittently-acting feed devices on which 35 said pack rests, means for lifting and dropping an edge of said pack to loosen up the sheets, continuously-moving feed-rolls to which said feed-devices deliver the sheets, a 40 pair of separable rollers to which said feed-rolls deliver the sheets, and means for separating and bringing together said separable rolls.

In witness whereof I have hereunto set 45 my hand in the presence of two subscribing witnesses.

THEODORE G. MCGIRR.

Witnesses:

WALTER B. RAYMOND,
 CHESTER A. JAYNE.