P. A. JACKSON.

MANIFOLDING REGISTER.

APPLICATION FILED JULY 16, 1917.

1,275,262.

Patented Aug. 13, 1918.

2 SHEETS—SHEET 1.

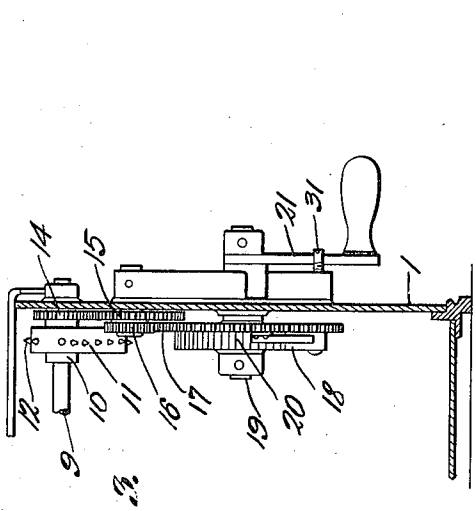


Fig. 2.

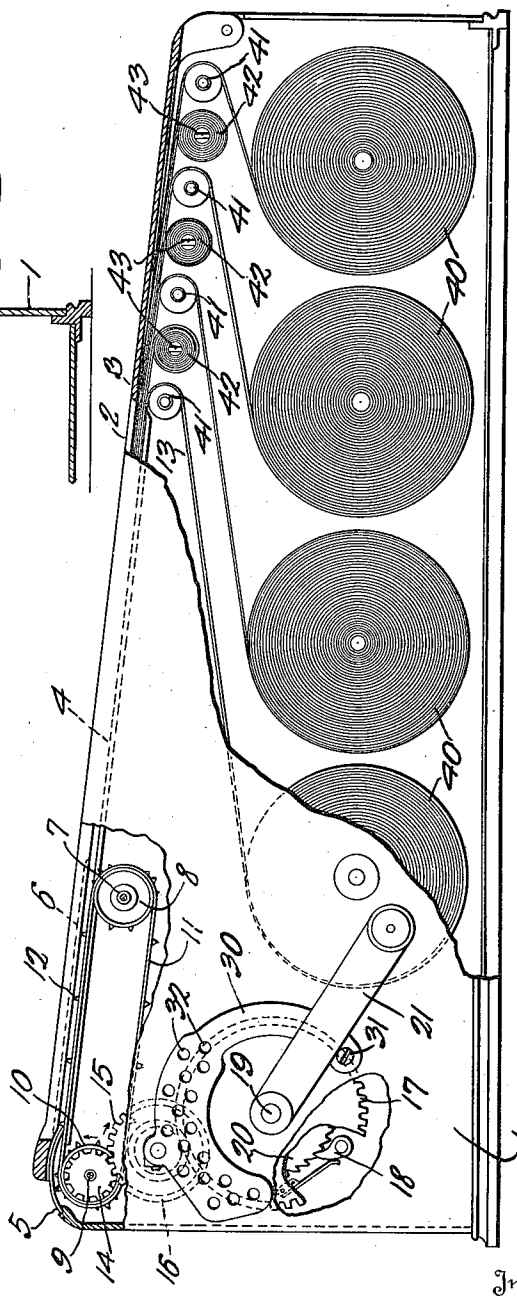


Fig. 1.

Witness

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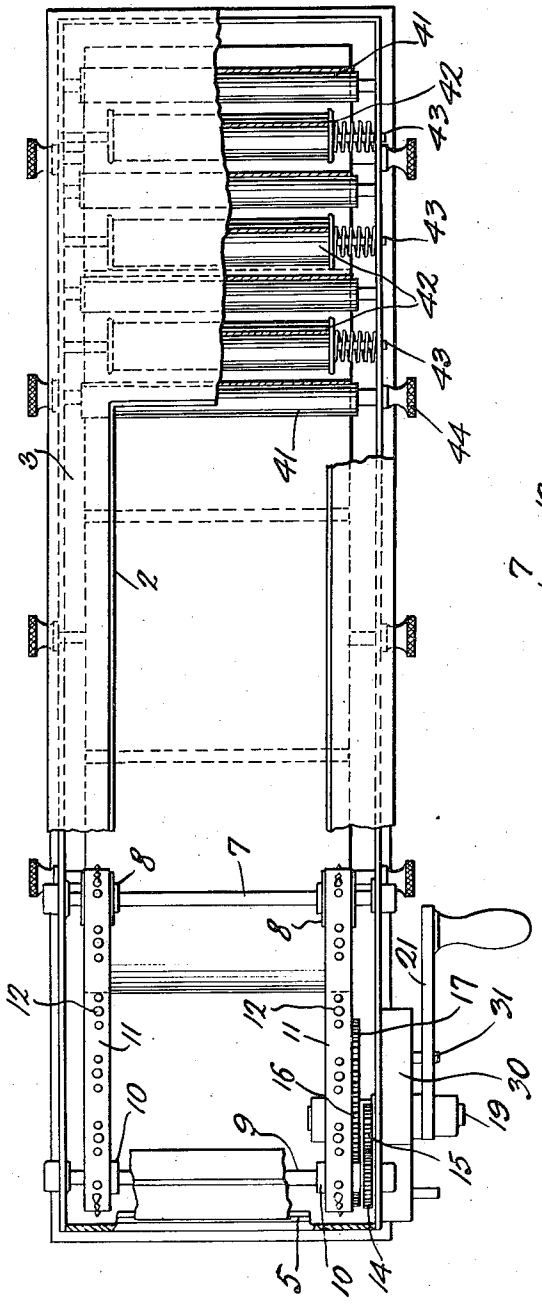


Fig. 2.

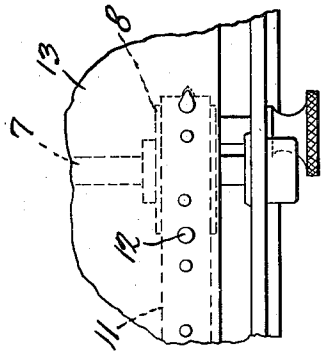


Fig. 4.

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UNITED STATES PATENT OFFICE.

PHILIP A. JACKSON, OF ATLANTA, GEORGIA.

MANIFOLDING-REGISTER.

1,275,262. Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed July 16, 1917. Serial No. 180,766.

To all whom it may concern:

Be it known that I, PHILIP A. JACKSON, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Manifolding-Registers, of which the following is a specification.

The present invention has to do with manifolding registers.

One of the objects of the invention is the provision of a manifolding register that is constructed in general in such manner that the register is reliable in operation, and is adapted to be practically operated for an indefinite period without liability of any of the parts getting out of order or any of the sheets handled becoming disarranged.

Another object of the invention is to provide a manifolding register embodying simple and highly efficient means for preventing any one of the several sheets from creeping, whereby perfect registration is maintained, and this without the necessity of employing sheets having closely arranged perforations adjacent to their edges, which closely arranged perforations are objectionable because the edges are liable to be torn and rendered ragged and difficult to handle. My novel means for the purpose indicated is so constructed and arranged that the perforations in the sheets can be an inch or more or less apart to maintain perfect registration, and at the same time the drawing or feeding means will have a strong hold on the sheets because of the length of the sheet portions that it positively engages at one and the same time.

Another object of the invention is the provision in a manifolding register of improved measuring and stop mechanism, calculated to accurately determine the length of the memorandums fed from the machine, and adapted to be quickly and easily adjusted, without the employment of skilled labor, to increase or diminish the length of the memorandums fed, as occasion demands.

Another object is the provision of a manifolding register in which the memorandum sheets and the carbon sheets are so relatively arranged that the friction between the memorandum sheets and the carbon sheets tends to preserve or maintain the carbon sheets in a smooth or flat state conducive to the best results incidental to the operation of the machine.

Other objects and advantageous characteristics of the invention will be fully understood from the following description and claim when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a view, partly in side elevation and partly in longitudinal vertical section of the machine constituting the best practical embodiment of the invention so far devised.

Fig. 2 is a top plan of the same, with parts broken away.

Fig. 3 is a detail transverse section, with parts in elevation, illustrating the driving connection complementary to the feeding mechanism.

Fig. 4 is a detail plan showing the engagement of the feed-mechanism with the sheets of paper.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

The casing 1 of my novel machine may be of the general configuration illustrated or of any other form compatible with its purpose. It may also be constructed in any manner consonant with the arrangement and operation of my improvements without involving departure from the scope of the invention as claimed. As shown the said casing 1 is provided with the usual opening 2 in its top wall 3, and the ordinary well-known stationary writing plate 4 below said opening, and it is also provided in its forward end with the usual opening 5 for the emission of the memorandums. It will be noticed, however, by reference to Fig. 1 that the top plate of the casing is provided in its underside and above the toothed feeding belts hereinafter described, with longitudinal grooves 6 which snugly receive the teeth during the forward traverse thereof with a view to preventing the paper sheets from running idly over said teeth. In other words, by virtue of the movement of the teeth in the grooves 6 the top wall 3 is enabled to keep the paper in engagement with the teeth.

Arranged transversely in the casing adjacent to the top wall thereof is a transverse shaft 7 on which are plain wheels 8, and also arranged transversely in the casing and in front of and in spaced relation to the shaft 7 is a second shaft 9 on which are toothed wheels 10, the teeth of which are arranged about the distance illustrated apart.

Mounted on the wheels 8 and 10 are sprocket belts 11 on the outer sides of which

are teeth or pins 12. These latter are arranged a considerable distance apart, say one inch, and are designed to take into perforations in the memorandum sheets 13, adjacent to the edges of the sheets. By virtue of the perforations referred to being arranged a considerable distance apart, the edges of the sheets are not liable to be torn or to become ragged and for such reason likely to interfere with the even operation of the machine. Notwithstanding the said arrangement of the perforations at a considerable distance apart, it will be noticed that the positiveness and reliability of the feed is not diminished inasmuch as a considerable number of the teeth or pins 12 are always in positive engagement with the memorandum sheets and at the same time are disposed in the grooves 6. Fixed on the shaft 9 adjacent to one end thereof, is a spur gear 14, and intermeshed with said spur gear 14 is a spur gear 15 which is fixed with respect to and movable as a unit with a parallel spur gear 16. This latter is intermeshed with a spur gear 17 on which is a spring backed pawl 18. A shaft 19 extends loosely through the spur gear 17 and supports the same, and on said shaft 19 is arranged in a fixed manner a ratchet wheel 20 which is disposed to engage the pawl 18, as best shown in Fig. 1. Also fixed on the shaft 19 and arranged exteriorly of the casing is a crank handle 21. When the said crank handle is thrown upwardly and forwardly, the gear 17 will be rotated and the feed belts 11 connected therewith will be driven so that the traverse of the upper stretches of the belts will be forward. When, however, the handle 21 is moved in the opposite direction, the ratchet disk 20 will ride idly past the pawl 18, and in consequence the belts 11 and the sheets engaged by the same will remain at rest.

Suitably arranged on and connected to one side wall of the casing 1 is an exterior curvilinear fixture or bracket 30; the said fixture or bracket being disposed between the casing wall and the plane of movement of the handle 21, see Fig. 3. At 31 the bracket 30 is provided with a lateral stud designed to serve as a stop in limiting the downward and rearward swing of the handle, and at 32, 32 the bracket is provided with a plurality of apertures, preferably though not necessarily, threaded, and adapted to receive a stop pin similar to the stop pin 31. The stop pin complementary to the apertures 32 is designed to be placed in and removed from any one of said apertures, and this readily and without the employment of skilled labor, and from the same it follows that the said stop pin may be positioned at any point desired to limit the upward and forward working stroke of the handle 21, and thereby determine the length of the memorandum fed out of the machine incidental to such stroke. By preference the apertures 32 are so relatively arranged that the amount of paper fed out on each operation may be increased by increments of one-half inch, though this is a mere matter of choice, and may obviously be varied in the discretion of the manufacturer without involving departure from the scope of my invention.

In the casing 1 are arranged four (more or less) rolls of paper 40. Paper sheets 13 are carried rearwardly from the said rolls 40 and around suitably mounted guide rolls 41, and are then carried forwardly, in superimposed relation, over the writing plate and under the opening in the top wall of the casing, and are then carried over and in engagement with the feed belts 11, the teeth 12 of said belts being disposed in the spaced apertures of the sheets and movable in the grooves 6 so as to assure feed of the sheets through the forward opening in the casing when the machine is operated.

Arranged intermediate of the guide rolls 41 are carbon rolls 42 of which there are preferably three. The carbon rolls are carried on spindles 43 which are arranged in sockets in the side walls of the casing. Each spindle 43 has one fixed head and one loose head, and also has a tight screw attachment designed to be released when advancing the carbon. One end of each spindle is of angular form in cross-section to prevent turning of the spindle, and the screw attachment, indicated by 44 in Fig. 2 is adapted to be tightened against the carbon to prevent turning of the carbon roll when the same is subjected to the friction of the passing paper sheets 13. The carbon sheets extend forwardly to a point slightly in advance of the writing plate, and the forward ends of the carbon sheets are left free. By virtue of this it will be manifest that the frictional contact between the paper sheets 13 and the carbon sheets, indicaed by 14 will have the effect of holding the said carbon sheets at all times in a stretched and smooth state that is conducive to prolonging the usefulness of the carbon and at the same time is calculated to contribute materially to the free operation of the machine.

It will be gathered from the foregoing that notwithstanding the practical advantages of my novel machine, as pointed out in the foregoing, the machine is simple and inexpensive in construction and embodies no parts such as are likely to get out of order after a short period of use and during rational operation of the machine.

It will also be appreciated from the foregoing that the carbon running in the same direction as the paper is a highly important feature of my invention, and is not open to the objections of those registers in

which the carbon crosses the paper and in which perforations in the paper, punch holes where paper is not smoothly punched, ragged edges of paper or bits of paper hanging from punch holes engage the edge of the carbon, and tear both paper and carbon and seriously interferes with the operation of the machine. It will be noticed in this connection that the carbon runs between the points on belts and cannot get out of place, nor can it become entangled with the paper or otherwise interfere with the operation of the register, which is not true of registers extant.

It will be further understood that the carbons running with the paper may cover all parts of the bill even to the end thereof, whereas crossing carbons cannot be used the full length of a bill and often date lines and other items will not copy because of space not covered by the carbon.

Another material point of advantage in my invention is the belt or belts with points along the full length of bill, as compared with those registers that embody guide wheels to extract paper and which only engage the paper at one point with the result that the wheel often tears through paper when there is the least friction present. On the other hand, the belts can be made to engage the paper at as many points as desired, and the hold of the belts will overcome all necessary friction in extracting bills.

Having described my invention, what I claim and desire to secure by Letters Patent, is:

In a manifolding register, the combination of a casing, paper feeding means therein, an exterior handle, means intermediate the handle and the feeding means for actuating the latter on movement of the handle in one direction, means whereby the feeding means is left idle on movement of the handle in the opposite direction, a curvilinear, plate-like fixture arranged on and supported by the casing and interposed between the same and the handle and having a stop and also having a plurality of sockets arranged at different distances from said stop, and a pin removably arranged in one of said sockets.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

PHILIP A. JACKSON.

Witnesses:
WILLIAM D. HART,
F. T. BANKSTON.