

No. 846,716.

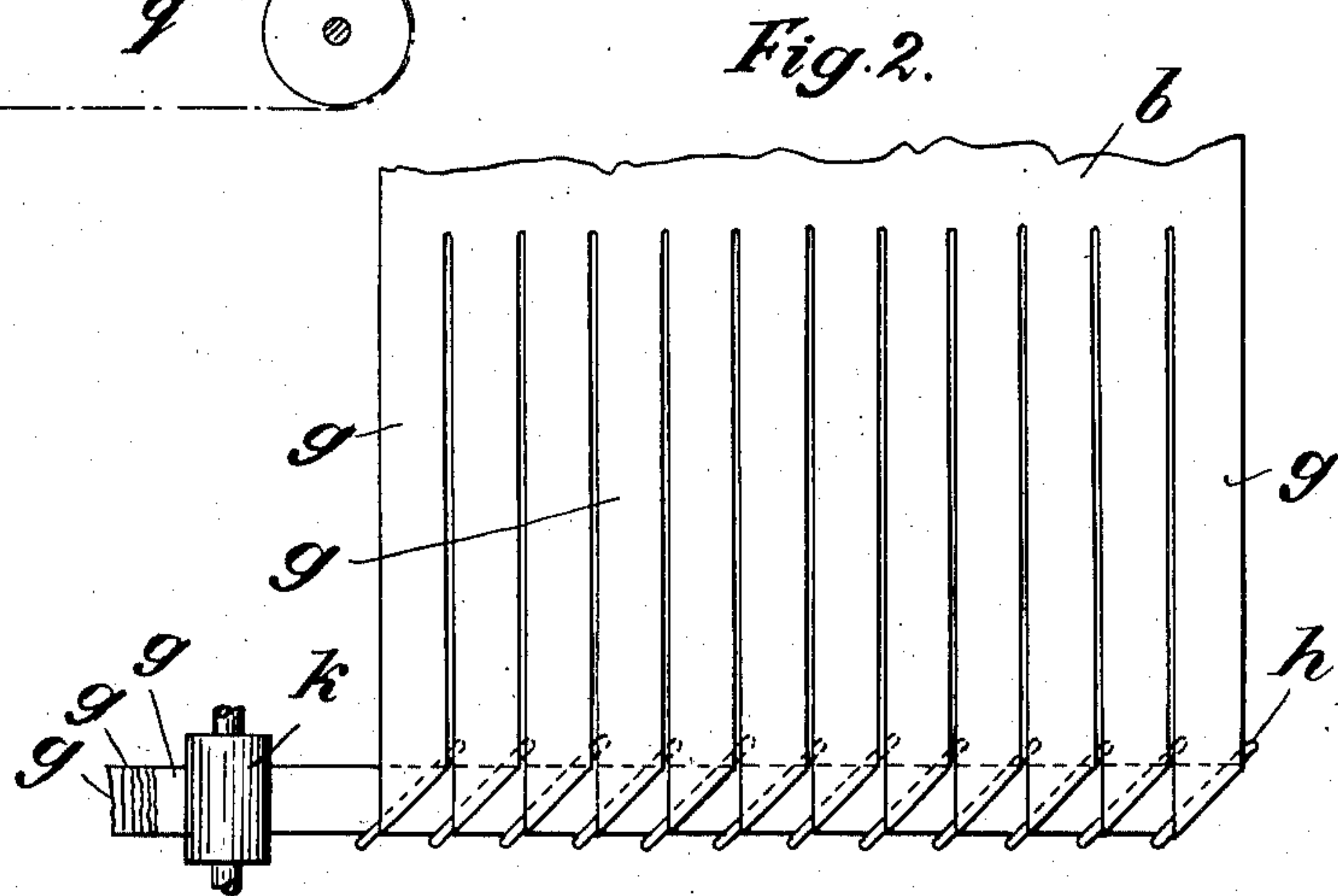
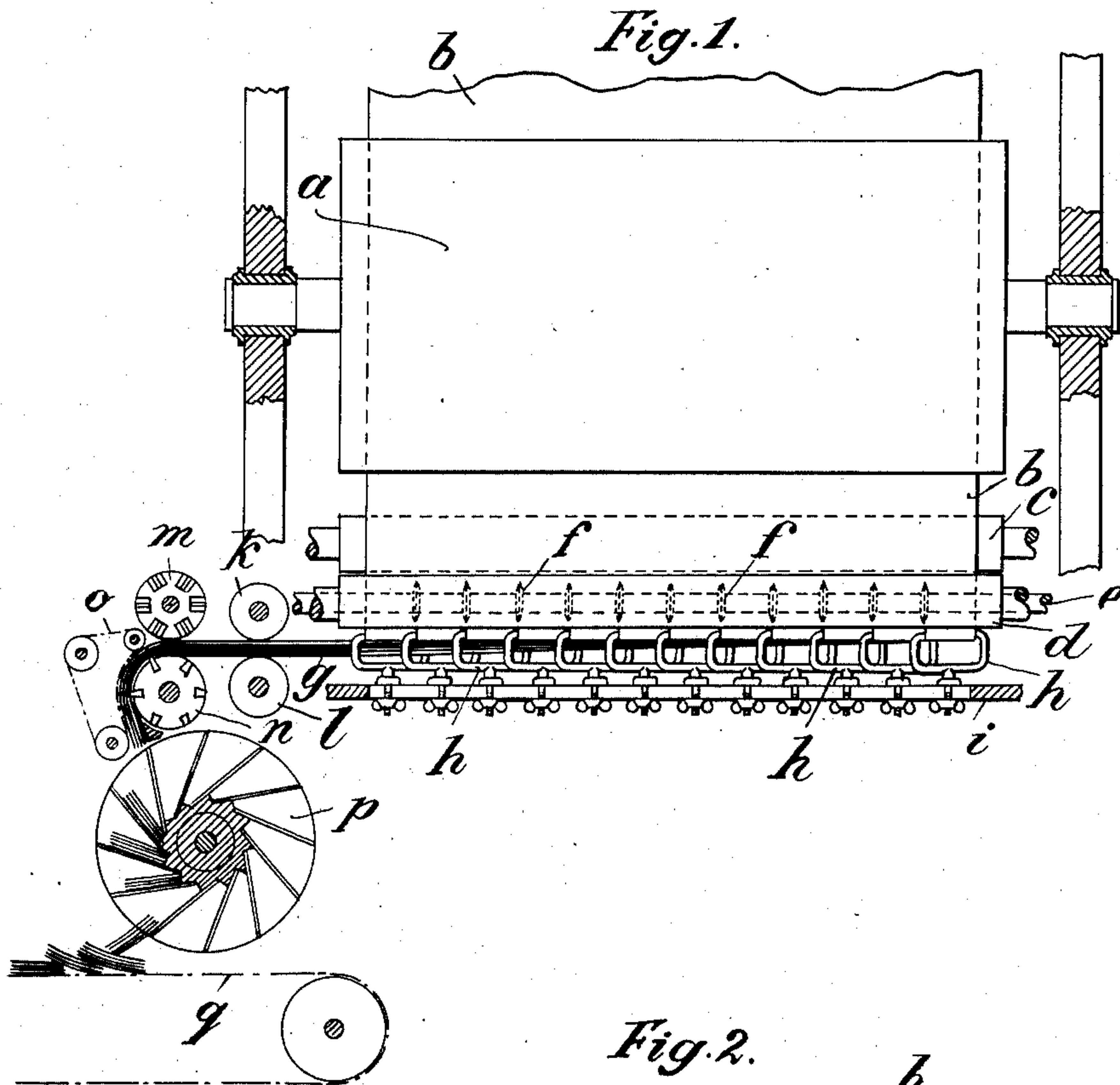
PATENTED MAR. 12, 1907.

P. ASHELM.

MACHINE FOR ASSEMBLING LEAVES.

APPLICATION FILED JULY 19, 1906.

2 SHEETS—SHEET 1.



Witness:
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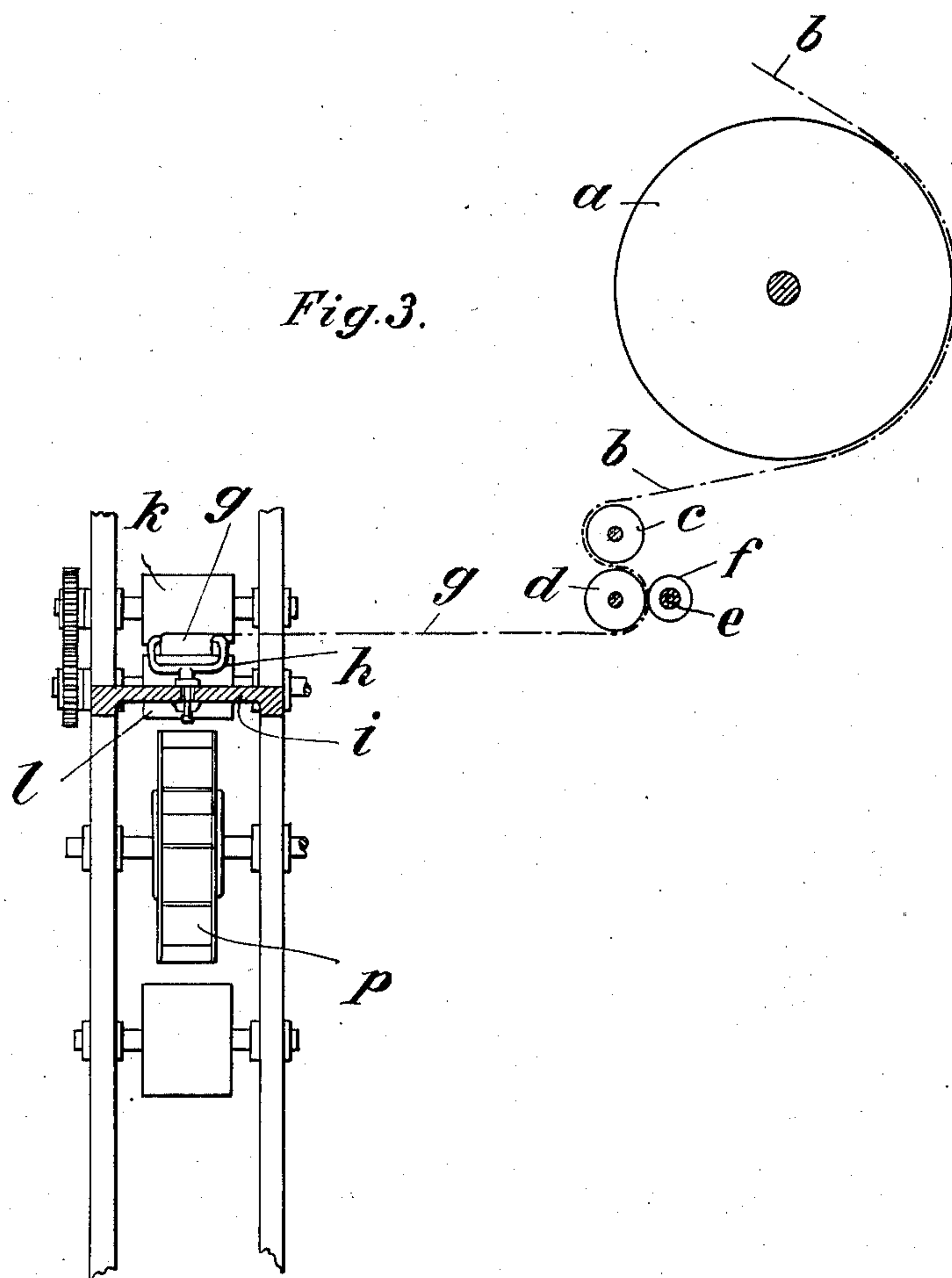
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UNITED STATES PATENT OFFICE.

PAUL ASHELM, OF BERLIN, GERMANY.

MACHINE FOR ASSEMBLING LEAVES.

No. 846,716.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed July 19, 1906. Serial No. 326,874.

To all whom it may concern:

Be it known that I, PAUL ASHELM, a citizen of the German Empire, residing at 21 Willdenowstrasse, Berlin, Germany, have invented a certain new and useful Improved Machine for Assembling Leaves, of which the following is a specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention described herein relates to an arrangement for assembling the leaves of calendars, blocks for tickets, and the like printed on a band of paper into a continuous line of blocks from which the sets of leaves can be taken off ready for stitching them together.

Compared with the hitherto-known arrangements for the production of calendars, note-books, and the like blocks my invention has the advantages of far greater precision in working and greater simplicity, as the employment of catching devices, pins and the like, which are necessary in the methods now in use, is entirely avoided in my invention. This advantage is effected in the first instance by employing the principle of turning prongs or fingers often used in printing-machines for guiding the paper or for conducting the sheets of paper to the folding devices. In my invention a larger number of such turning-prongs shaped as bent fingers is employed to assemble the longitudinal strips cut from the printed band of paper in the width required for the block-leaves and convey them to the continuous line of blocks. From the front end of this unseparated line of blocks single parts are separated by means of transverse cutting-knives, each at the distance of the required length of the block-leaf, and the separate blocks are piled up over or adjacent to each other in order to form a row of blocks, which is effected by means of a small roller with pockets similar to those used for collecting and distributing sheets in the printing trade.

I will now describe my invention with reference to the accompanying drawings, in which—

Figure 1 shows a front view of the device arranged before the last printing-cylinder of a rotary machine. Fig. 2 shows the band of paper cut in longitudinal strips. Fig. 3 shows a side view of the arrangement.

The endless band of paper *b* coming from the printing-cylinder *a* runs first of all over the conducting-rollers *c d*, on which it is cut

in the well-known manner into small longitudinal strips *g* by means of disk knives *f*, arranged on the axle *e* in distances corresponding to the required width of the block-leaves. Turning-prongs *h* are provided at an angle to the direction in which the strips *g* move and in a sloping direction to the band of paper, the number of which prongs corresponds to the number of strips. These turning-prongs *h* can be adjusted in a slot in the plate *i* for different widths of block-leaves by means of screws and nuts provided on them. By means of these sloping turning-prongs *h* the paper strips *g*, which run on the side of each other until they arrive at the said prongs, are piled up over each other by the latter and are then conducted between delivering-rollers *k l*. Figs. 1 and 2 of the accompanying drawings show clearly the manner in which the strips *g* are conducted through the turning-prongs. The line of the block-band is shown in Fig. 1 with its thickness exaggerated in comparison with the other parts of the arrangement for the sake of distinctness and clearness. The strips *g* are conducted through the turning-prongs *h* in such a manner that, as shown in Fig. 2, the second strip from the left-hand side lies under the first one, the third under the second, and so on, so that the last strip on the right-hand end runs under the others through the first prong, which strips are continually forwarded through the action of the delivering-rollers *k* and *l*. The delivering-rollers conduct the block-band to the transverse cutting-cylinders *m n*, which are provided with knives and grooves and which cut the band into single blocks. The two cylinders *m* and *n* can, naturally, be replaced by any other suitable cutting device. The guide-band *o* conducts then the separated blocks round the cylinder *n* until they fall into the different pockets of the rotating pocket-roller *p*. As soon as the blocks in the rotating pocket-roller come into a certain sloping position they slide out of the pockets and fall on a transporting-band *q*, the speed of which is adjusted to that of the roller *p* in such a manner that the blocks are put into successive rows like the tiles of a roof, as shown in Fig. 1. Thus a continuous line of single blocks is formed, the different blocks of which can be lifted off ready for stitching them together.

In order to allow of modifications with regard to the piling up of the blocks, the

pocket-roller can be removed and other rollers with a different number of pockets can be employed.

If the device is to be used to assemble the printed leaves of calendars in the right order, the types of the monthly dates are arranged on the cylindrical form in such a way that the days of the months appear in sloping rows on the web of paper. Suppose the band of paper is cut into sixteen longitudinal strips. The leaves belonging to the time from the 1st to the 16th of January are piled up in the right order in the first part as separated from the block-band in consequence of the sloping position of the row of the sixteen dates, the second part separated from the block contains the leaves from the 17th of January to the 2d of February, the third part contains the leaves from the 3d to the 19th of February, and so on. Thus the different block parts are piled up with a continuous succession of the dates, as already described.

The sloping position of the date-rows on the band of paper becomes necessary on account of the different distances of the strips which extend between the turning-prongs and the transverse cutting-rollers, and these distances increase according to the number of strips from the left-hand side of the drawings to the right-hand side. The right succession of the leaves in the block-band can also be effected by arranging the types in straight rows and the turning-prongs in a sloping ascending line.

My invention has besides the advantages mentioned above the further advantage that it can be produced as a device for itself and can be brought in connection with any rotating printing-machine without difficulty.

What I claim, and desire to secure by Letters Patent, is—

1. An improved machine for assembling the single leaves of ticket and note blocks for calendars, printed on a band of paper, consisting of longitudinal and transverse cutting-knives, a pocket-roller, pivotally-mounted adjustable prongs so arranged that the longitudinal strips cut from the band of paper in the required width of the block-leaves, are conducted through the turning-prongs in order to form a block-band, from which parts in the required length of the block-leaves are cut off, and are piled up by the pocket-roller

over or adjacent to each other, so that the single blocks can be lifted off, ready for stitching them together, substantially as herein described and set forth.

2. In a machine of the character described, means for feeding a band of paper, conducting-rollers, means for cutting the paper into longitudinal strips, turning-prongs arranged at an angle to the direction in which said strips move and in an inclined direction to said band, said prongs being each independently pivotally mounted and adjustable to and from each other and serving to pile the strips one upon the other, delivery-rolls through which said piled strips pass, cutting-rollers, and a rotatable pocket-wheel for receiving the cut strips.

3. In a machine of the character described, means for feeding a band of paper, conducting-rollers, means for cutting the paper into longitudinal strips, turning-prongs arranged at an angle to the direction in which said strips move and in an inclined direction to said band, said prongs being each independently pivotally mounted and adjustable to and from each other and serving to pile the strips one upon the other, delivery-rolls through which said piled strips pass, cutting-rollers, a rotatable pocket-wheel for receiving the cut strips, and means for adjusting said prongs.

4. In a machine of the character described, means for feeding a band of paper, conducting-rollers, means for cutting the paper into longitudinal strips, turning-prongs arranged at an angle to the direction in which said strips move and in an inclined direction to said band, said prongs serving to pile the strips one upon the other, delivery-rolls through which said piled strips pass, cutting-rollers, a rotatable pocket-wheel for receiving the cut strips, and a guide-band mounted upon rollers beyond the cutting-rollers with a portion curved parallel with the periphery of one of said rollers above the pocket-wheel for engaging the strips after they are cut by the cutters.

In testimony whereof I affix my signature.

PAUL ASHELM.

In presence of—

WOLDEMAR HAUPT,
HENRY HASPER.