(No Model.)

C. H. HEYWOOD.

DEVICE FOR FEEDING SHEETS OF PAPER.

No. 592,609. Patented Oct. 26, 1897.

Fig. 1.

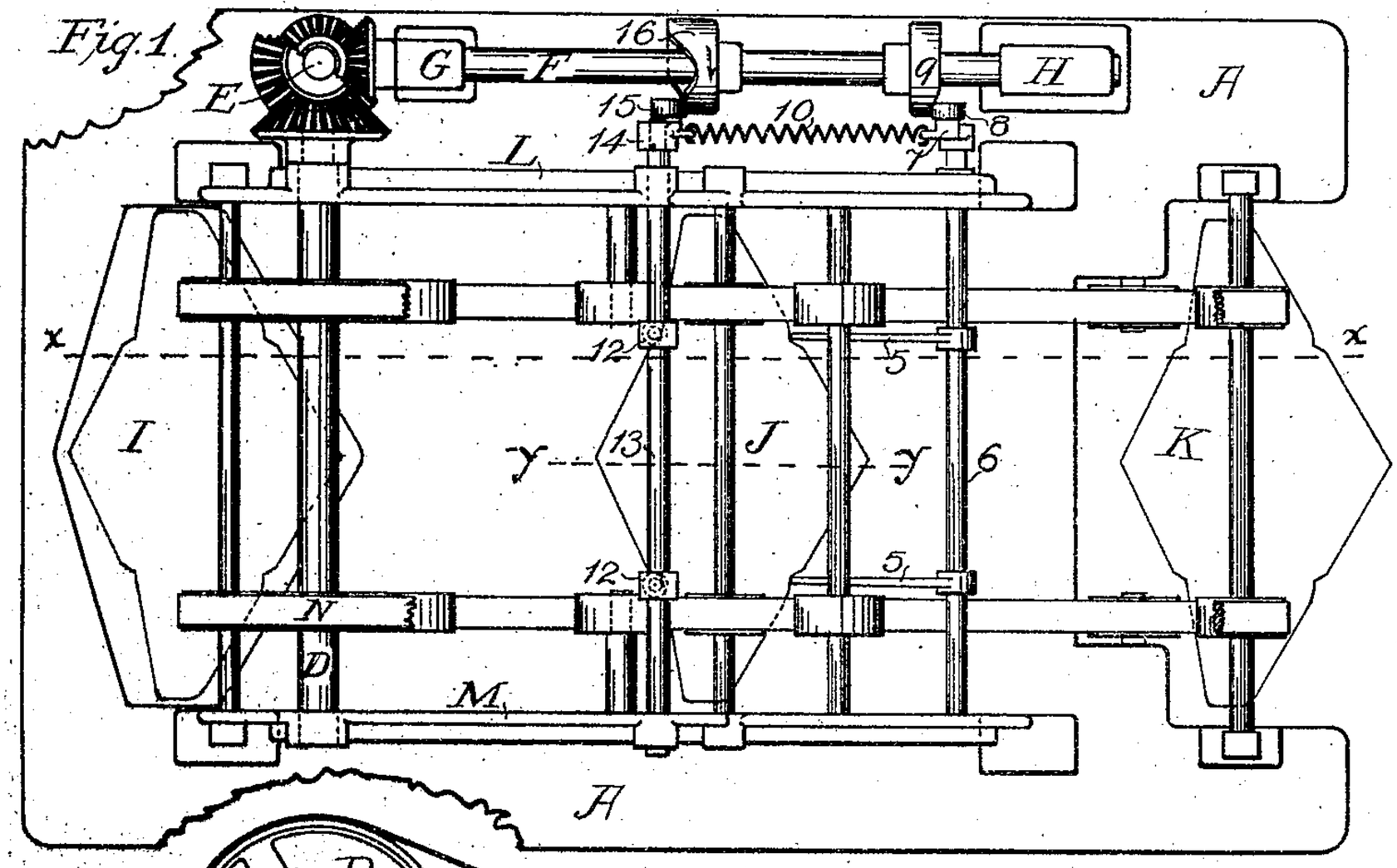

Fig. 2.

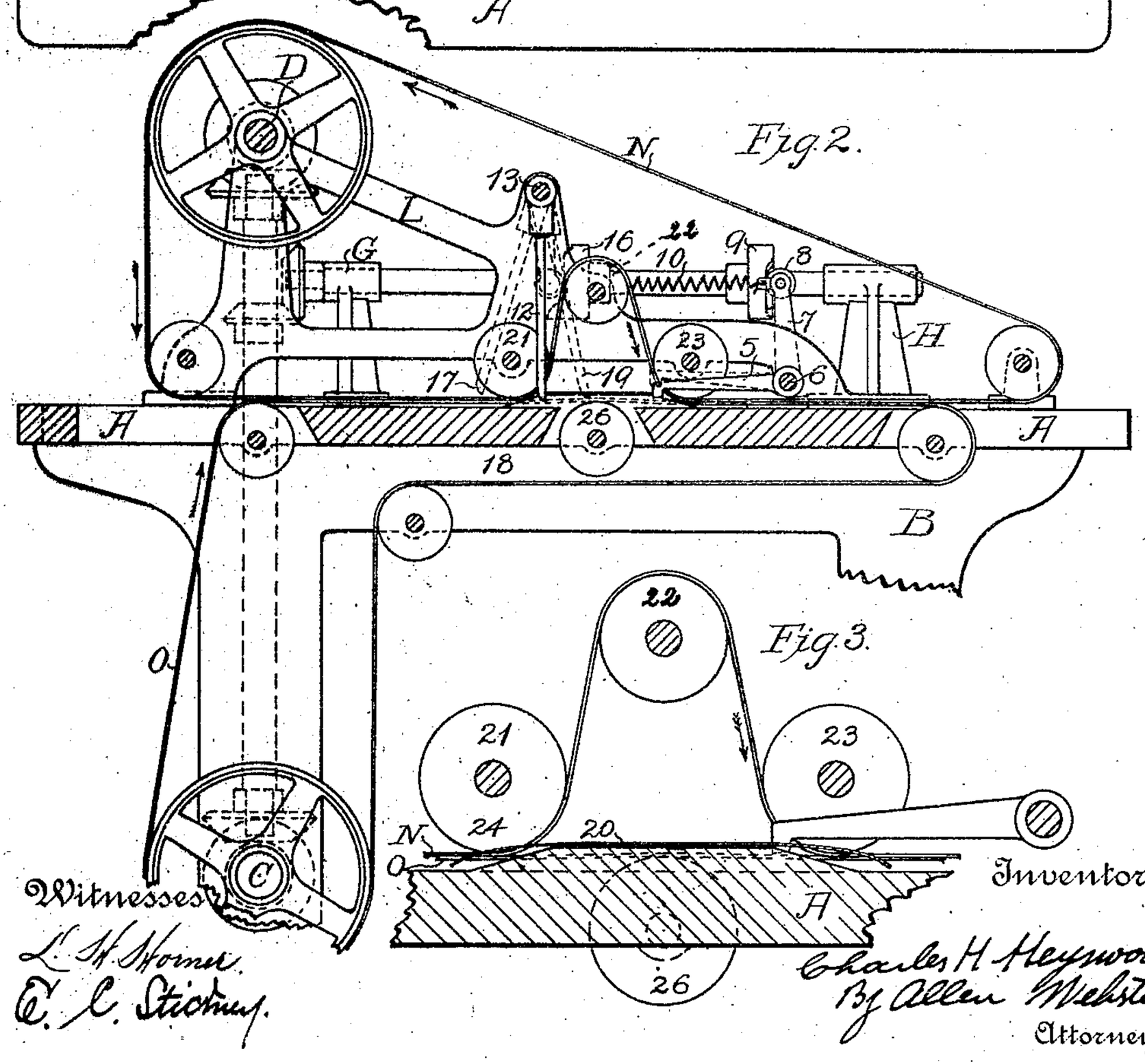

Fig. 3.

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DEVICE FOR FEEDING SHEETS OF PAPER.

SPECIFICATION forming part of Letters Patent No. 592,609, dated October 26, 1897.

Application filed August 15, 1895. Serial No. 559,379. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HENRY HEYWOOD, a citizen of the United States of America, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Devices for Feeding Sheets of Paper, of which the following is a specification, reference being had to the accompanying drawings and letters and figures of reference marked thereon.

My invention relates to device for feeding sheets of paper, &c., in envelop-machines, printing-presses, and other machines where such feeding is desired, and has for its object the stopping and retaining of the same at perfect rest at different stations as they pass through the machine, the sheets remaining stationary while the carrying mechanism continues in motion, thus increasing the capacity of the machine, while avoiding the tendency of displacement at the stations and clogging of the machine.

My invention consists in the general construction and arrangement whereby the objects of my invention are attained.

In the accompanying drawings, in which like letters and figures of reference indicate like parts, Figure 1 is a plan view of a machine embodying my invention. Fig. 2 is a side elevation in section on line *x x* of Fig. 1, and Fig. 3 is an enlarged section of the middle portion of the machine on line *y y* of Fig. 1.

In detail, A indicates the table of the machine; B, the table-supporting frame; C, the driving-shaft; D, a shaft parallel therewith, used for giving motion to the upper tapes; E, a vertical shaft for the purpose of transmitting motion from the driving-shaft C to the tape-shaft D; F, a horizontal shaft mounted in bearings on the table; I, a station from which the paper is fed to the machine; J, a station at which the sheet may be stopped for any purpose desired; K, a station at which the sheets are received after passing through the machine; L and M, frames of the table for supporting the rolls carrying the upper tapes and the gages, to be hereinafter described; N, the upper tapes; O, the lower tapes, one only being shown in the drawings.

As this invention relates more particularly to the stopping of the blank in its passage on tapes or belts, I have not illustrated the feeding or taking-off appliances. The drawings therefore do not show a complete machine, except so far as the invention seems to require.

I have shown two upper tapes and one lower tape, of which there are two, one beneath each of the upper tapes, and have shown means for moving these tapes. The upper tapes pass in at the front of the machine, as shown, and run under roll 21, over roll 22, and down under roll 23, in the direction indicated by the arrow shown in Fig. 3. The lower tapes enter at the front of the machine, as shown, and, coming in contact with the upper tapes, pass therewith along under roll 21, there separating from the upper tapes and passing over roll 26, beneath roll 23, in contact with the upper tapes again. Roll 26 is arranged with its periphery at the highest point slightly above the under side of rolls 21 and 23, for the reason that the lower tape O may be kept tightly in contact with the upper tape N beneath rolls 21 and 23.

At station J, I provide a raised portion on the table A. This raised portion has an incline 24 leading from it.

Extending through frames L and M is a shaft 6, on which shaft are two stop-gages 5 5. These gages reach forward and terminate in two ends, against which the blank or sheet abuts when it reaches the station J. On the end of shaft 6 is the radial arm 7, carrying roll 8. The stop-gages 5 5 are raised and lowered through the operation of the parts mentioned by cam 9, fastened on the shaft F. Through frames L and M also extends shaft 13. Extending downward from this shaft are two gages 12 12. On the end of shaft 13 is a radial arm 14, carrying roll 15, operated from cam 16 on shaft F. Rolls 15 and 8 are kept in contact on their respective cams by spring 10, fastened to the radial arms 7 and 14.

In the illustration I have provided for four tapes, two upper and two lower ones, running in contact, but the machine could be arranged with lower tapes only, or with lower tapes combined with upper rolls, or even with upper tapes combined with lower rolls, or the same form only using single tapes. I therefore do not limit myself strictly to the construction shown, as the spirit of the invention applies to any of these forms.

The operation of stopping a sheet while passing through the tapes or belts is as follows: At a time when a blank fed from station I is ready to pass beneath roll 21 the gages 12 12 are in the position shown in dotted lines, and marked 17, and the stop-gages 5 5 lowered, as shown in Fig. 2. A sheet passing under roll 21 at this moment is carried up the incline 24 onto the raised portion of table A and against the stops 5 5 by the action of the tapes or belts. As the sheet passes beneath the gages 12 12 these gages swing down to a vertical position, as shown in Fig. 1, also shown in Fig. 2 in full lines, and adjust the blank against the ends of gages 5 5 to bring it in the position required. A blank 20 is shown in Fig. 3 at station J resting on this raised portion out of contact with either of the tapes. Upon the raising of the stop-gages 5 5 by the cam 9 to the dotted position shown in Fig. 2 the gages 12 12 advance to the position marked 19, thus pushing the blank into contact with the tapes or belts under roll 23, whereby the blank is drawn from the position J and carried on to position K or any other desired part of the machine.

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

1. The combination with two or more pairs of upper and lower moving tapes or belts between which paper is carried, of a midway station on which a sheet of paper may stop during its passage and remain for a limited period out of contact with the tapes or belts.

2. The combination with upper and lower moving and alining tapes or belts arranged to carry sheets of paper, of a raised platform or station located between the entrance and exit of the tapes or belts and on which the sheet is moved and raised out of contact with the lower tapes or belts during its passage onto the platform.

3. The combination with one or more moving tapes or belts of means for stopping and starting a sheet of paper during its progress through the machine, stop-gages and adjusting-gages which move the paper into contact with the stop-gages after which the stop-gages are removed from the path of the sheet and the adjusting-gages push the sheet forward into contact with the tapes, substantially as shown.

4. The combination with one or more moving tapes or belts, means for stopping and starting a sheet of paper during its passage through the tapes or belts, on a stop-station around which the tapes or belts are guided out of contact with the sheet lying on the said station, substantially as shown.

5. The combination of upper and lower alining tapes, a raised station to receive the sheet, intermediate of the alining end sections of the tapes, guide-rolls to carry the upper line of tapes over and above the raised station, and means to stop and start the sheet at the station.

6. The combination of a raised platform or station, a pair of lower tapes to travel over the said station adjacent to the ends thereof, a pair of upper tapes moving in alinement with the lower set, rolls to hold and carry the upper tapes free from the station and lower tapes, and oppositely-disposed rolls adjacent to the station to depress the upper tapes.

7. The combination of two pairs of upper and lower moving tapes between which a sheet of paper may be carried, and a stationary raised frame or station located between the two pairs of tapes and whereon a sheet of paper may stop during its passage over the station and remain out of contact with the tapes, substantially as specified.

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