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PAPER FEEDING DEVICE

Filed Nov. 24, 1931 8 Sheets-Sheet 1

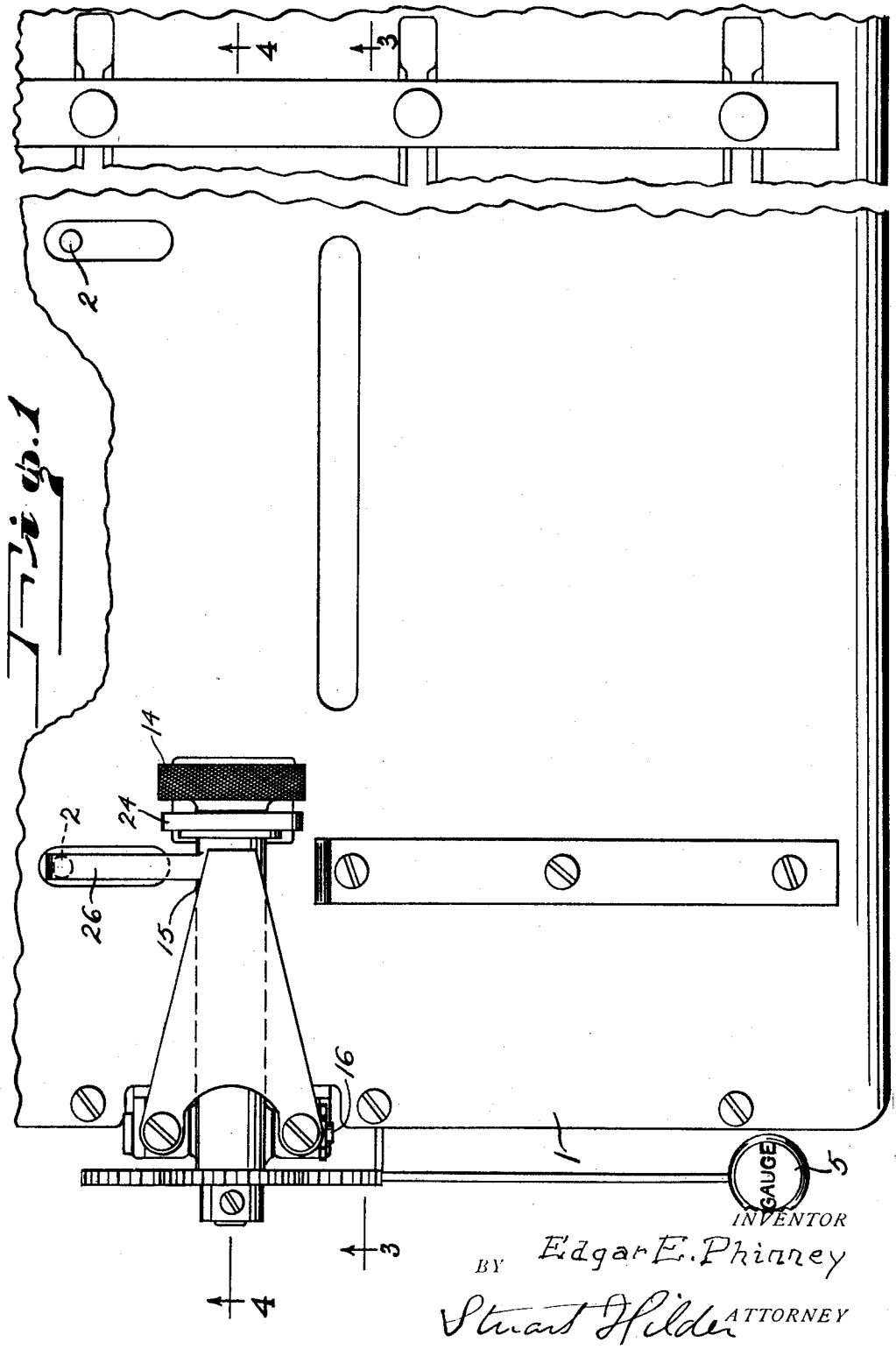

Fig. 1

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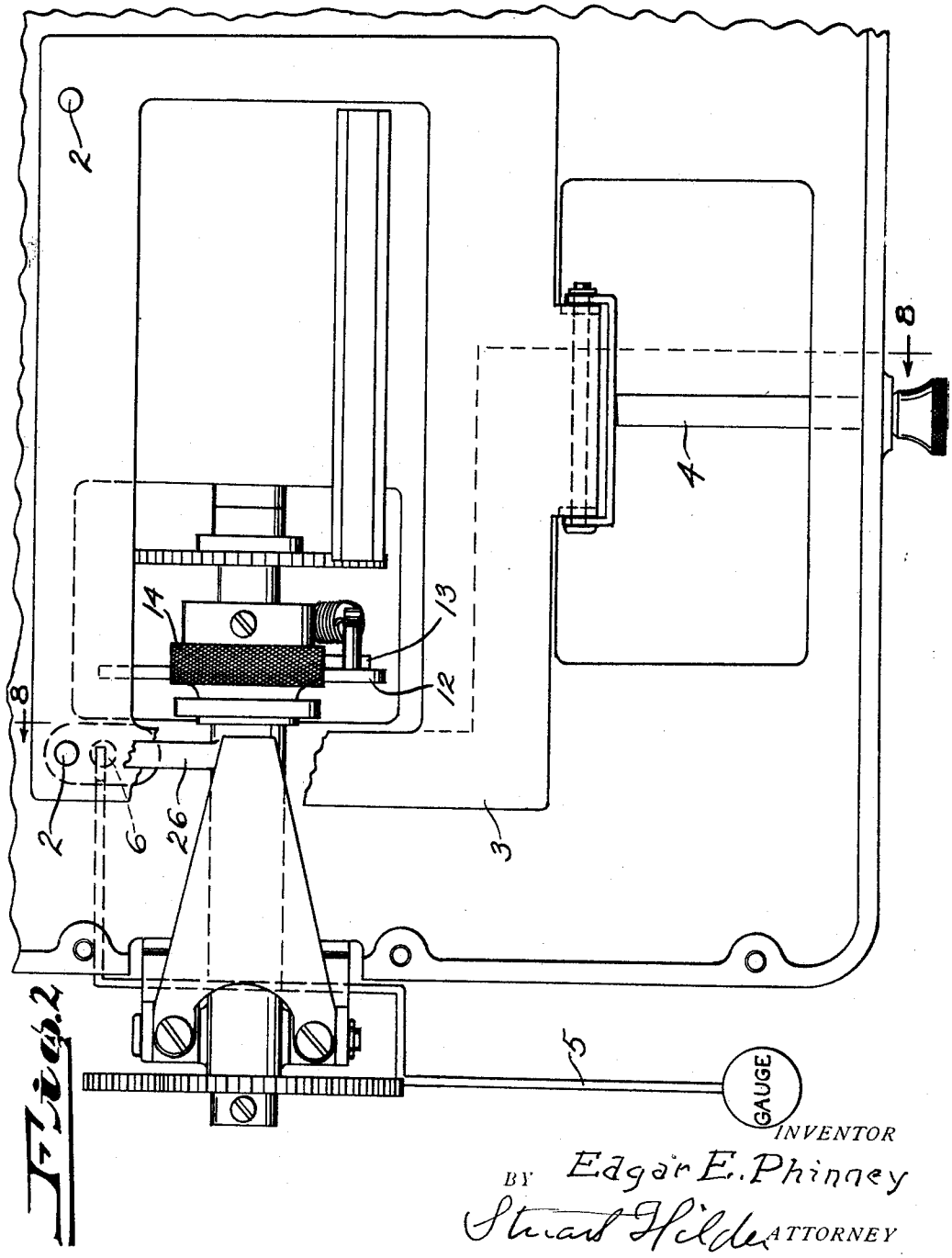

Fig. 2

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Fig. 3

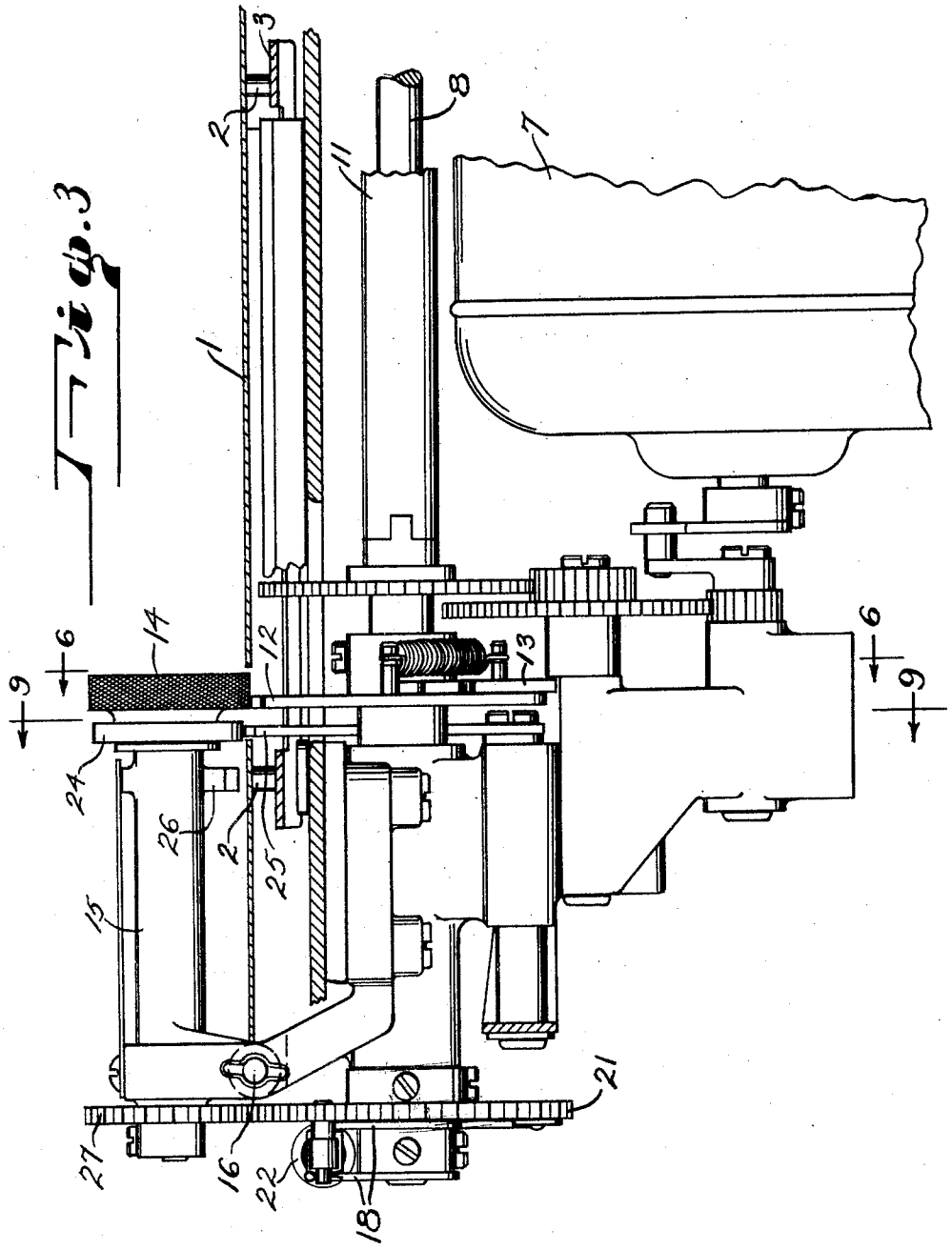

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Fig. 4

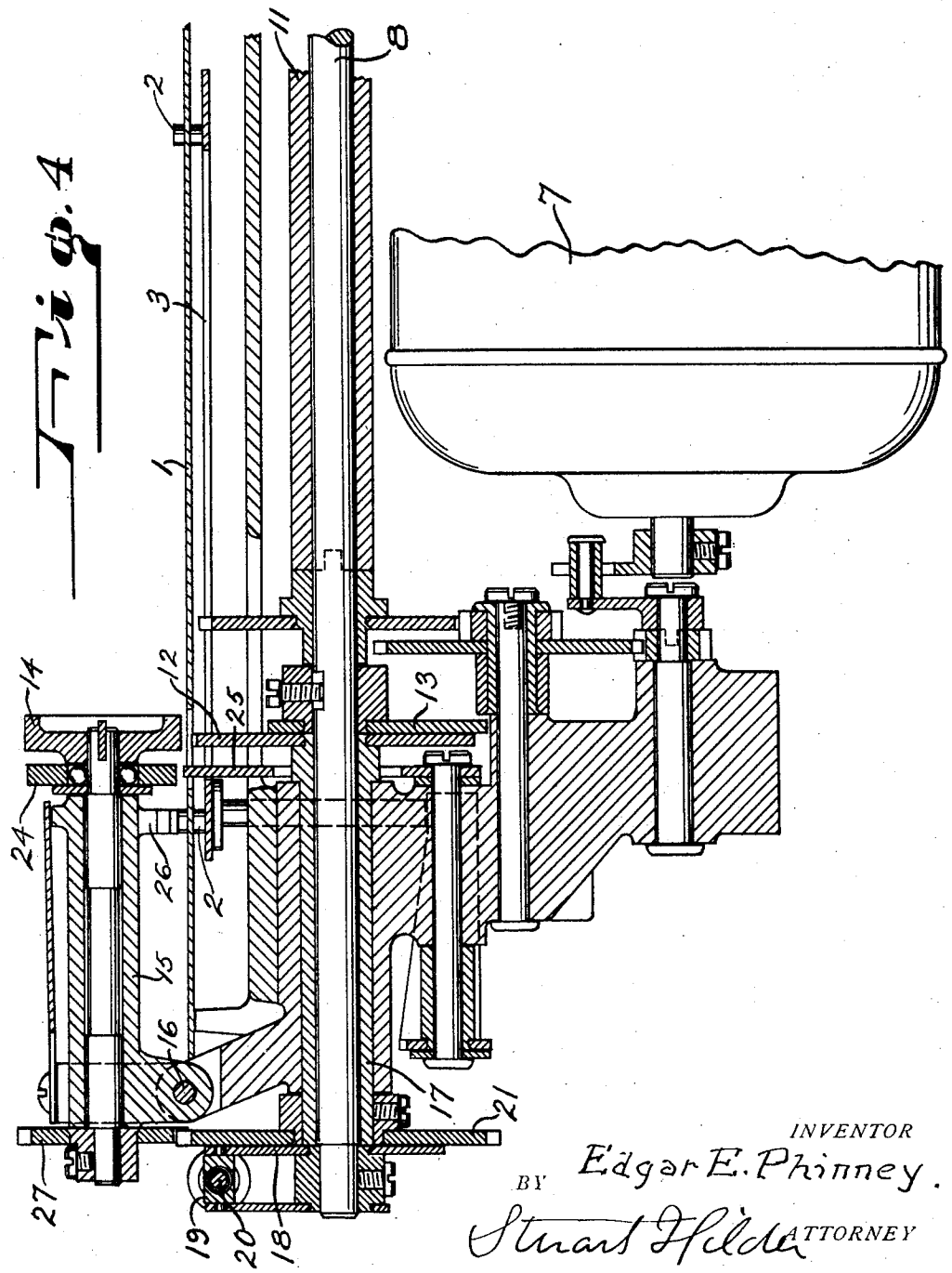

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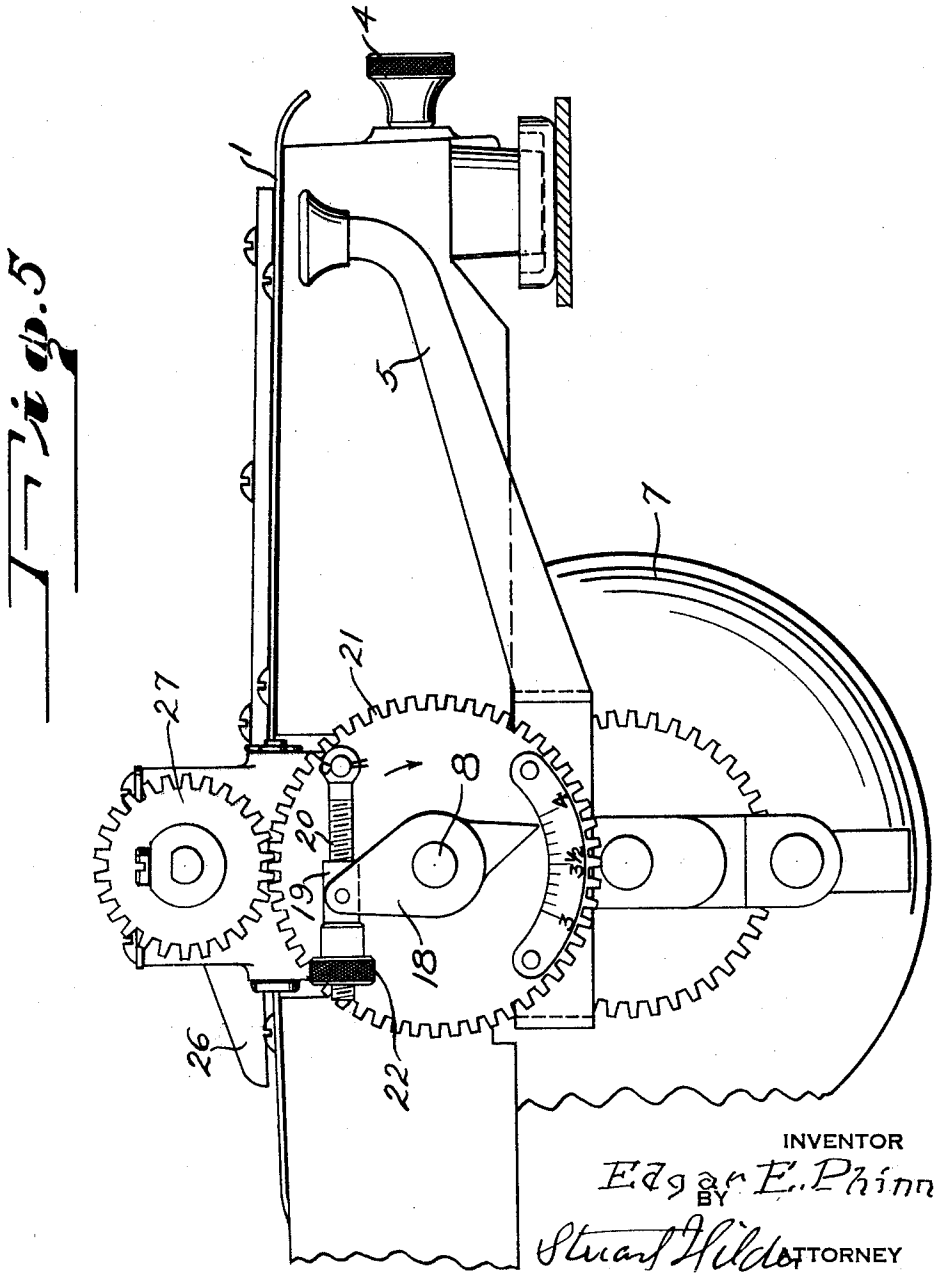
Fig. 5



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PAPER FEEDING DEVICE

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Fig. 7

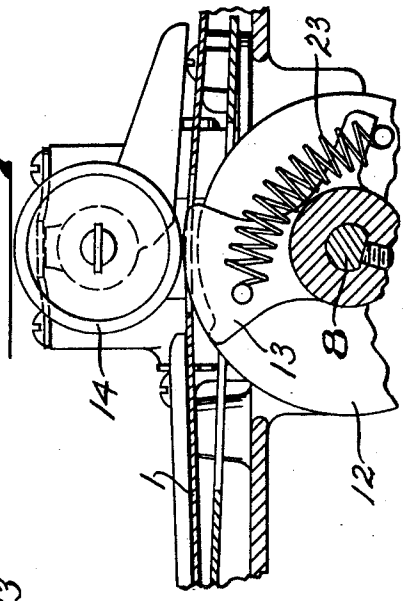

Fig. 6

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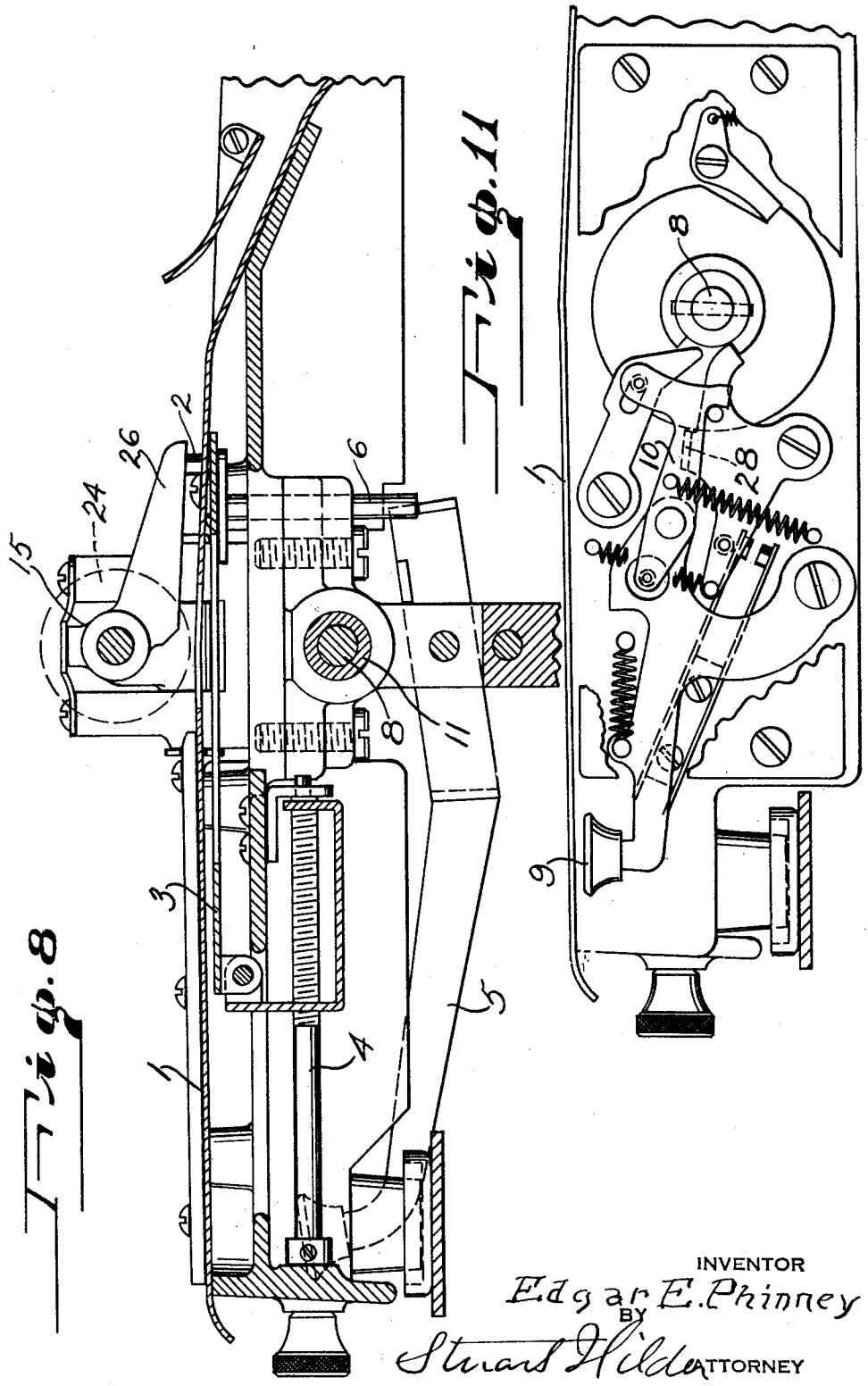

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Fig. 10

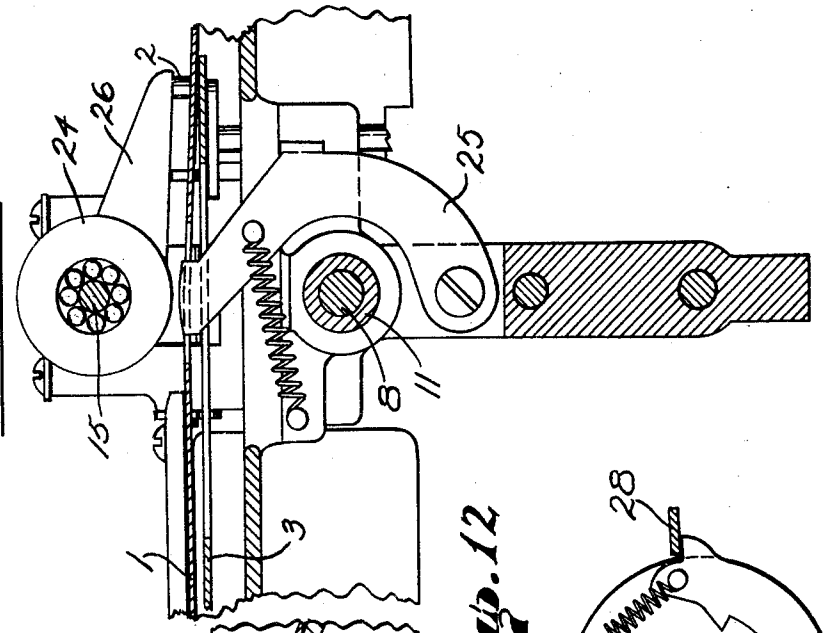


Fig. 12

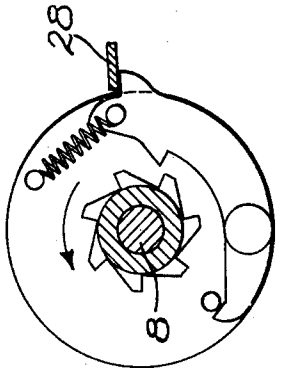
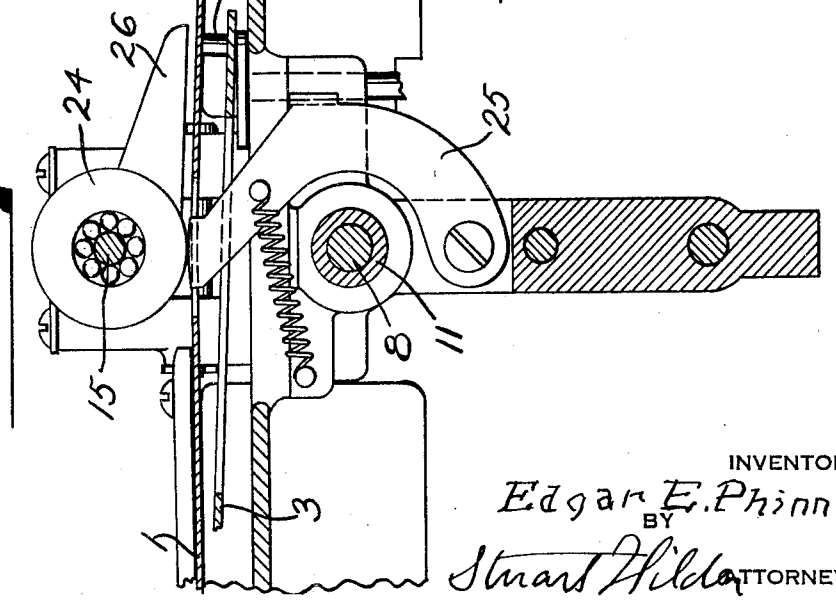


Fig. 9



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UNITED STATES PATENT OFFICE

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PAPER FEEDING DEVICE

Application filed November 24, 1931. Serial No. 576,976.

The invention has relation to intermittent paper feed devices for use with various machines, such as check writers and the like, and resides more particularly in means for adjusting the extent of each feeding impulse.

The invention consists in the novel construction and combination of parts as set forth in the appended claim.

In the accompanying drawings illustrating the invention:

Fig. 1 is a fragmentary plan view of a check writing machine embodying the invention.

Fig. 2 is a similar view with the top plate removed.

Fig. 3 is a section, taken on line 3—3 of Fig. 1.

Fig. 4 is a section, taken on line 4—4 of Fig. 1.

Fig. 5 is a left side elevation.

Fig. 6 is a section, taken on line 6—6 of Fig. 3.

Fig. 7 is a similar view, showing the parts in mid-cycle position.

Fig. 8 is a section, taken on line 8—8 of Fig. 2.

Fig. 9 is a section, taken on line 9—9 of Fig. 3.

Fig. 10 is a similar view, showing the paper gripping roller raised by a gauge pin.

Fig. 11 is a right side elevation, with parts broken away.

Fig. 12 is a detail left hand face view of the clutch.

In these drawings the invention is shown as applied to a check writing machine, known upon the market as the Defiance check writer, designed to fill in successive values upon a sheet upon which a number of check blanks are printed. The printing means of this machine not being material to the present invention, has not been illustrated.

In operating a machine of the kind illustrated, a sheet of checks is placed on the plate 1 of the machine (Fig. 1), and is manually adjusted into contact with the gauge pins 2, which serve to bring the printing line into proper position. In order to accommodate checks of varying dimensions, the pivoted plate 3, Figs. 2 and 8, carrying the gauge pins 2 is adjustable by means of a screw 4. In inserting the checks the gauge pins 2 are held in raised position by means of a gauge key 5, which lifts the rear end of plate 3 by means of a pin 6. The checks being in position, the gauge key is released, whereupon the pins 2 will be retracted below the plate 1 and a suitable paper gripping device, hereinafter more fully described, will engage the sheet of checks and hold them in printing position.

The machine is now driven, by engaging a clutch between the motor 7 and drive shaft 8 (Fig. 3), this clutch, illustrated in Fig. 12, being of a well known type which will be engaged upon release of a stop member 28, and which will be released upon reengagement of said stop member, the latter serving also to position the driven parts in full cycle position. This clutch is controlled by a key 9 (Fig. 11) and lever 10, operated thereby. The clutch is made between a driven sleeve 11, directly geared to the motor and the drive shaft 8 (Fig. 3).

At each cycle of operation, shaft 8 will be given a complete rotation, and suitable feeding segments 12 and 13, hereinafter more fully described, will be put in motion. The first part of the movement of these segments is idle and during this time the printing mechanism of the machine will be operated. During the latter part of the cycle the segments 12 and 13 will feed the sheet of checks rearwardly, to bring the next succeeding check to the printing line, whereupon the machine will be stopped, so that a different amount, name or other data may be set up in the printing head. A second manipulation of key 9 will now print the second check and feed the sheet, so that the third check is in printing position, etc.

The segments 12 and 13 (Figs. 4, 6 and 7) cooperate with a roller 14, mounted on a carrier 15 pivoted to the frame of the machine at 16, the paper being fed between the segments and the roller.

Segment 13 is rigidly connected to shaft 8, while segment 12 is mounted on a sleeve 17, so that it may be adjusted angularly with relation to segment 13, thereby extending or

diminishing the angular extent of feeding surface of the combined segments. By this means provision is made for feeding checks of different dimensions, so that the printing line will be properly positioned as each check is fed to printing position. Means governing the relative adjustment of segments 12 and 13 is illustrated in Figs. 4 and 5, wherein it will be seen that shaft 8 is provided with arms 18, supporting a swiveled block 19, having an aperture surrounding a screw 20, pivotally mounted upon gear 21, fast upon sleeve 17. This gear 21 meshes with a gear 27, fast with the roller 14. A nut 22, threaded upon screw 20 holds block 19 toward the pivotal connection of said screw, thereby holding shaft 8 and sleeve 17 against relative movement in one direction. A spring 23, connecting the segments 12 and 13 tends to hold the sleeve and shaft against relative movement in the other direction.

A gripping roller 24 (Figs. 9 and 10) mounted on carrier 15, cooperates with a gripping lever 25, mounted on the framing of the machine, to hold the paper in place during the printing operation. The roller is held away from the lever 25 during the insertion of the sheet of checks by the contact of one of the gauge pins 2 (Fig. 8) with an arm 26 of the carrier. During the feeding of the checks, the segments 12 and 13, contacting with the roller 14 will also lift carrier 15 slightly, relieving the pressure upon the gripping lever 25, and allowing the paper to feed freely thereover.

I claim:

An intermittent paper feed device comprising a rotary carrier, two friction segments mounted thereon, means for adjusting said segments to varying relative angular positions about said carrier, a frame yieldable radially of the segments, a paper contact roller mounted in said frame and operable by both segments to displace the frame, a paper gripping member mounted in said frame, and a gauge projection lying out of the contact line of the segments and manipulable to raise the frame.

Signed at Orange in the county of Essex and State of New Jersey.

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