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Patented Dec. 6, 1898.

L. RAUH & D. McNEAL.
AUTOGRAPHIC REGISTER.

(Application filed Jan. 8, 1898.)

(No Model.)

2 Sheets—Sheet 1.

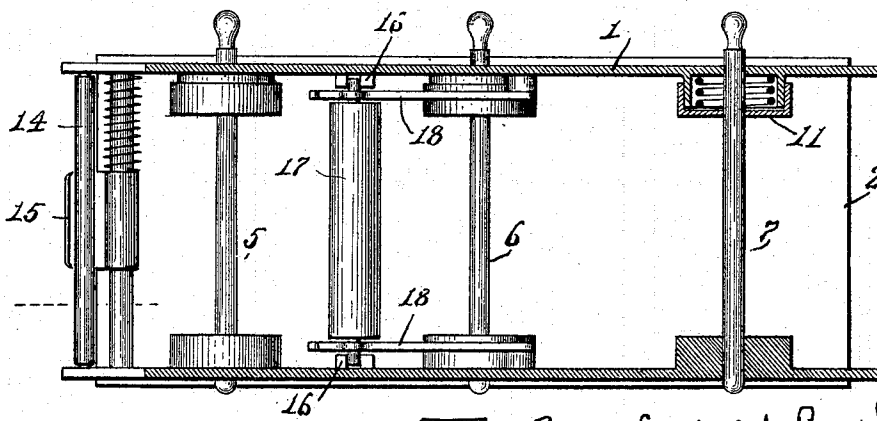
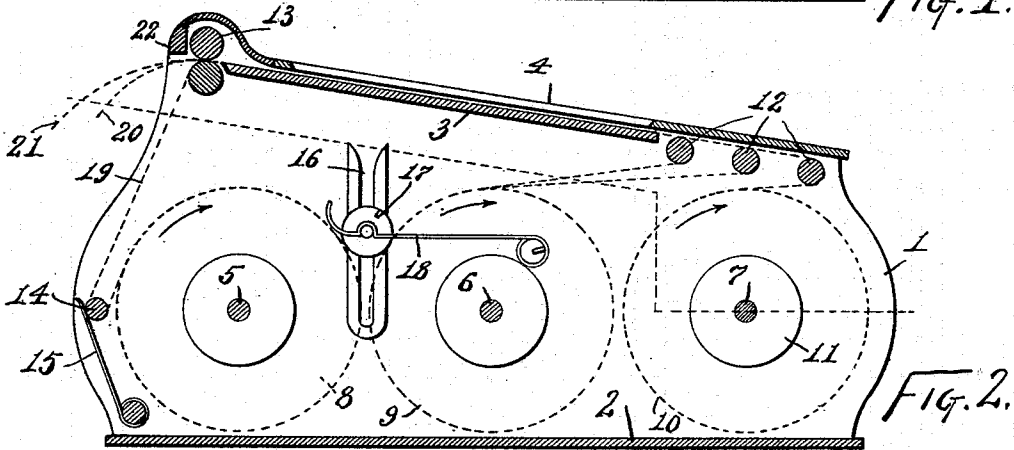
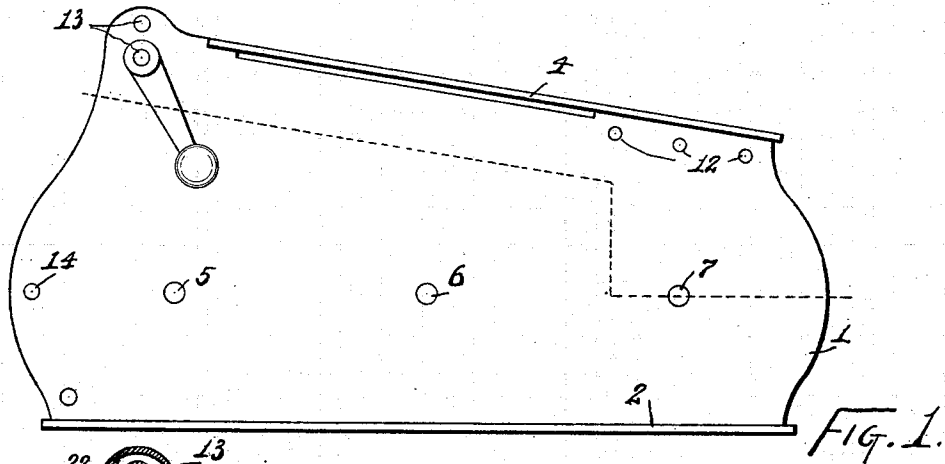


FIG. 3.

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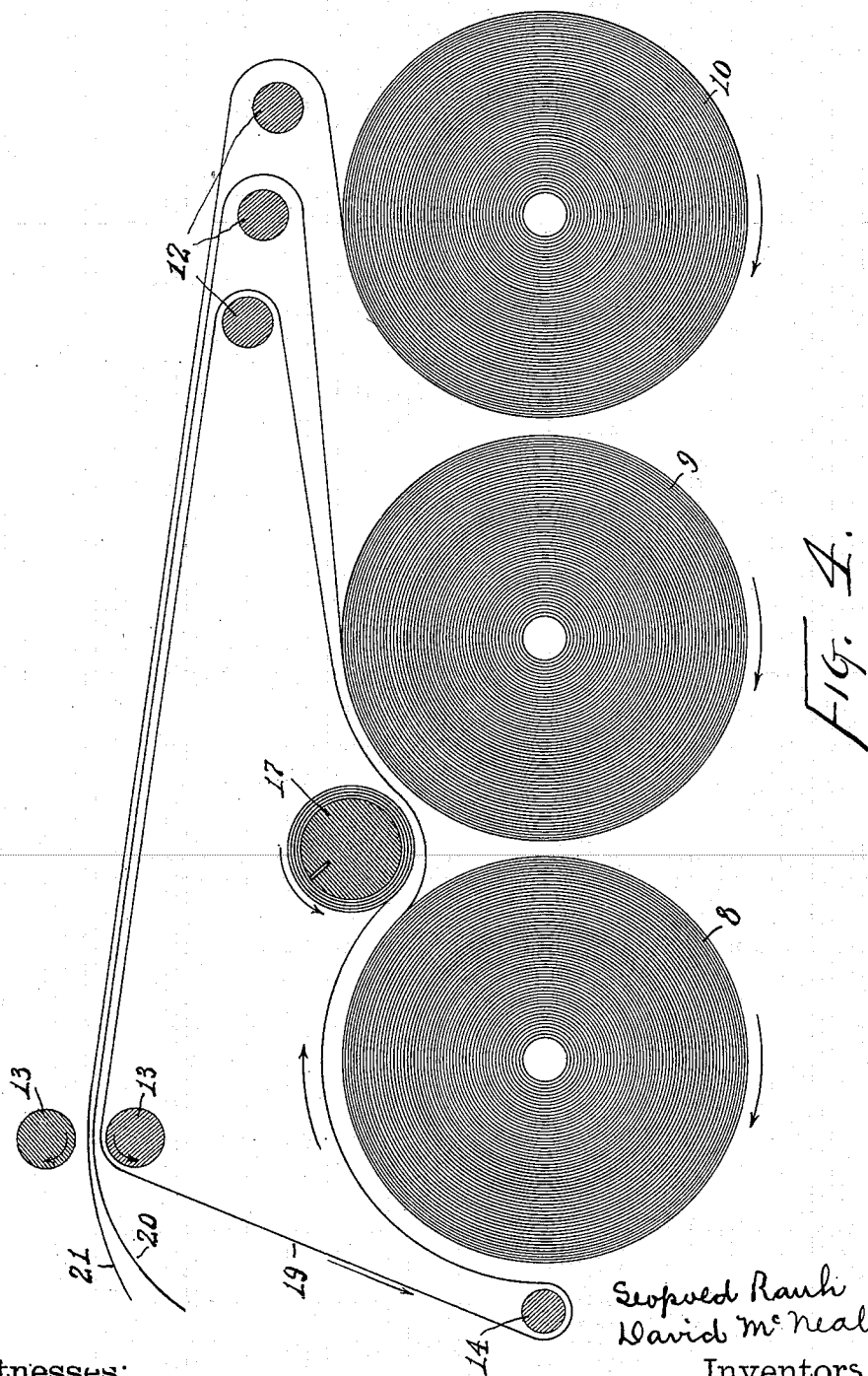
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

LEOPOLD RAUH AND DAVID McNEAL, OF DAYTON, OHIO, ASSIGNORS TO
THE EGRY AUTOGRAPHIC REGISTER COMPANY, OF SAME PLACE.

AUTOGRAPHIC REGISTER.

SPECIFICATION forming part of Letters Patent No. 615,306, dated December 6, 1898.

Application filed January 8, 1898. Serial No. 666,009. (No model.)

To all whom it may concern:

Be it known that we, LEOPOLD RAUH and DAVID McNEAL, of Dayton, Montgomery county, Ohio, have invented certain new and useful Improvements in Autographic Registers, of which the following is a specification.

This invention pertains to improvements in that class of autographic registers in which paper strips are drawn from rolls over a writing-tablet where transfer-paper is interposed between the strips, one of the strips being eventually stored upon the roll within the apparatus, while the remaining strip or strips are torn off in sections as used. The strip which is stored up in the apparatus after being written upon will be herein termed the "record" paper or strip. One of the strips which after being written on is torn off in sections as used will be termed the "bill" strip or paper, while the third strip will be termed the "duplicate" paper or strip, the three papers thus providing for the torn-off bill, for the torn-off duplicate, and for the stored record.

Our improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of an autographic register embodying our improvements; Fig. 2, a vertical longitudinal section of the same; Fig. 3, a horizontal section of the same, and Fig. 4 a diagram illustrating the course of the papers.

In the drawings, 1 indicates the usual casing sides of an autographic register; 2, the usual floor of the casing; 3, the usual writing-tablet at the top of the casing; 4, the usual cover to the casing and having a wicket over the writing-tablet through which the writing is to be done upon paper lying upon the tablet and exposed through the wicket; 5, the spindle for the supply-roll of record-paper, this spindle being disposed, as usual, across the casing of the register; 6, a similar spindle for the supply-roll of bill-paper; 7, a similar spindle for the supply-roll of duplicate-paper; 8, the supply-roll of record-paper; 9, the supply-roll of bill-paper; 10, the supply-roll of duplicate-paper; 11, spring-

pressed bosses within the casing and adapted to frictionally engage the ends of the supply-rolls of paper and furnish frictional resistance to their unwinding, these spring-pressed bosses being merely typical of ordinary well-known tension devices employed on the supply-rolls of autographic registers; 12, a series of guide bars or rolls disposed below the cover of the casing at the foot of the writing-tablet, there being one of these guide-rolls for each of the supply-rolls; 13, the feed-rolls, of usual construction of mounting, disposed at the head of the tablet and adapted to be turned by hand and advance all of the papers led from the writing-tablet; 14, a guide roll or rod disposed across the casing in front of the record-supply roll 8; 15, a spring-pressure finger bearing yieldingly against roll 14 and typifying an ordinary tension device to yieldingly resist the passage of paper over the roll; 16, vertically-slotted bearings at the inner sides of the two side walls of the casing and in a vertical plane midway between the spindles 5 and 6; 17, the record-storage spool, the same consisting of a roll having end journals freely engaging the slotted bearings 16; 18, pressure-springs engaging over the journals of record-storage roll 17 and yieldingly urging that roll downward; 19, the record-paper on its way from the feed-rolls to the record-storage roll 17; 20, the bill-paper projecting from the feed-rolls and adapted to be torn off; 21, the duplicate-paper projecting from the feed-rolls and adapted to be torn off, and 22 the usual tearing-blade in front of the feed-roll to serve in tearing off the bill and duplicate papers.

The course of the papers can best be followed in Fig. 4. The strip from record-storage roll 8 passes rearwardly and bends around one of guide-rolls 12, and then passes over the writing-tablet and between the feed-rolls 13, and then down to and bending around guide-roll 14, and then up around the upper periphery of record-supply roll 8, and then winding around record-storage roll 17. The bill-paper is drawn from bill-roll 9 and bends over the middle one of rolls 12 and then passes forwardly around the writing-tablet and between the feed-rolls 13. The duplicate-paper passes

from roll 10 and bends around the rear one of rolls 12 and then over the writing-tablet and out between the feed-rolls. Transfer-paper is to be disposed as usual between the strips
 5 lying over the writing-tablet, so that writing done upon the top paper will be reproduced upon the papers below, as usual. Feed-rolls 13 grip the three papers and when turned advance the three papers, the bill-paper and the
 10 duplicate-paper projecting out under the tearing-blade, where they may be torn off as desired, the record-strip going down into the casing for storage. If it be desired to have a bill and a duplicate to be torn off, as well as
 15 a stored record-strip, then the three supply-rolls 8, 9, and 10 will be needed. If, however, only a torn-off bill and a stored-up record be needed, then supply-roll 10 may be dispensed with and the paper drawn from roll 9
 20 may be the bill-paper. In other words, the third paper for the duplicate bill may be omitted from further consideration, and attention need be given only to the two rolls 8 and 9.

25 The record-paper after passing from the feed-rolls and around guide roll or rod 14 has its end attached to storage-roll 17, so as to be wound upon that roll. The storage-roll rests upon the two supply-rolls 8 and 9 and presses
 30 down against them by virtue of its own weight, aided by the pressure of springs 18. Consequently as rolls 8 and 9 are turned by the action of the feed-rolls in drawing the papers from the two supply-rolls the storage-roll 17 becomes turned by reason of the frictional
 35 contact of the rolls, and it is obvious that the peripheral speed of turning of the storage-roll 17 will be the same as the peripheral speed of turning of the two supply-rolls. Hence the record-strip winds upon the storage-roll 17 at the rate of withdrawal of record-paper from record-supply roll 8. The storage-roll 17 is at liberty to rise and fall, so as to permit the lower portion of its periphery to
 40 always properly engage the two supply-rolls below it regardless of the varying diameters of the several rolls. The storage-roll 17 increases its diameter as paper is wound up upon it, but at the same time the diameter of the supply-rolls becomes reduced by reason
 45 of paper being drawn from them, the consequence being that storage-roll 17 will not rise in direct proportion to its increase in diameter as the winding upon it takes place. It is desirable that storage-roll 17 have considerable weight, and in many cases the weight of this roll will be sufficient to insure proper frictional contacts without the aid of pressure-springs 18. The object of guide roll or
 50 rod 14 and tension-finger 15 is to hold the record-paper snug and taut as it goes to its storage-roll, and in some cases this tension device may be dispensed with.

In the exemplification the slotted bearings 65 16 are vertical and in a vertical plane between the vertical planes of spindles 5 and 6, and roll 17 is above the horizontal plane of those

spindles. "Vertical" and "above" are to be understood as of exemplifying terms, it being only essential that roll 17 shall be out of 70 the common plane of the two spindles and be capable of a movement perpendicular to that plane.

We claim as our invention—

1. In an autographic register, the combination, substantially as set forth, of a casing, 75 a writing-tablet supported thereby, a pair of feed-rolls at one end of the writing-tablet, a pair of spindles supported by the casing parallel with said feed-rolls and adapted to support supply-rolls of papers to be led over the tablet and between the feed-rolls, and a storage-roll disposed in the casing parallel with said spindles and out of their common plane and mounted for motion perpendicular with 85 reference to said spindles.

2. In an autographic register, the combination, substantially as set forth, of a casing, a writing-tablet supported thereby, a pair of feed-rolls at one end of the writing-tablet, a 90 pair of spindles supported by the casing parallel with said feed-rolls and adapted to support supply-rolls of papers to be led over the tablet and between the feed-rolls, a storage-roll disposed in the casing parallel with said 95 spindles and out of their common plane and mounted for motion perpendicular with reference to the common plane of those spindles, a guide-bar disposed across the casing parallel with the feed-rolls and adapted to receive a 100 bend of paper passing from the feed-rolls to said storage-roll, and a tension device engaging the paper passing over said rod.

3. In an autographic register, the combination, substantially as set forth, of a casing, 105 a writing-tablet supported thereby, a pair of feed-rolls at one end of the writing-tablet, a pair of spindles supported by the casing parallel with said feed-rolls and adapted to support supply-rolls of papers to be led over the 110 tablet and between the feed-rolls, slotted bearings at the sides of the casing between the planes of said spindles, and a storage-roll having its journals engaging said slotted bearings. 115

4. In an autographic register, the combination, substantially as set forth, of a casing, a writing-tablet supported thereby, a pair of feed-rolls at one end of the writing-tablet, a 120 pair of spindles supported by the casing parallel with said feed-rolls and adapted to support supply-rolls of papers to be led over the tablet and between the feed-rolls, slotted bearings at the sides of the casing between the planes of said spindles, a storage-roll 125 having its journals engaging said slotted bearings, and springs engaging said storage-roll and yieldingly urging it toward the common plane of said spindles.

5. In an autographic register, the combination, substantially as set forth, of a casing, a writing-tablet supported thereby, a pair of feed-rolls at one end of the tablet, a pair of 130 spindles crossing the casing below the tablet

and adapted to support supply-rolls of paper,
a pair of guide-rods at the end of the tablet
opposite the feed-rolls and adapted to receive
papers coming from said supply-rolls to the
5 tablet, and a storage-roll mounted for rising-
and-falling motion above the horizontal plane
and between the vertical planes of said spin-
dles and adapted to engage the peripheries

of the supply-rolls carried by said spindles
and over one of the papers going from the 10
supply-rolls to said guide-bars.

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