

987,186.

C. B. STILWELL.
INDICATING MECHANISM.
APPLICATION FILED OCT. 25, 1909.

Patented Mar. 21, 1911

2 SHEETS-SHEET 1.

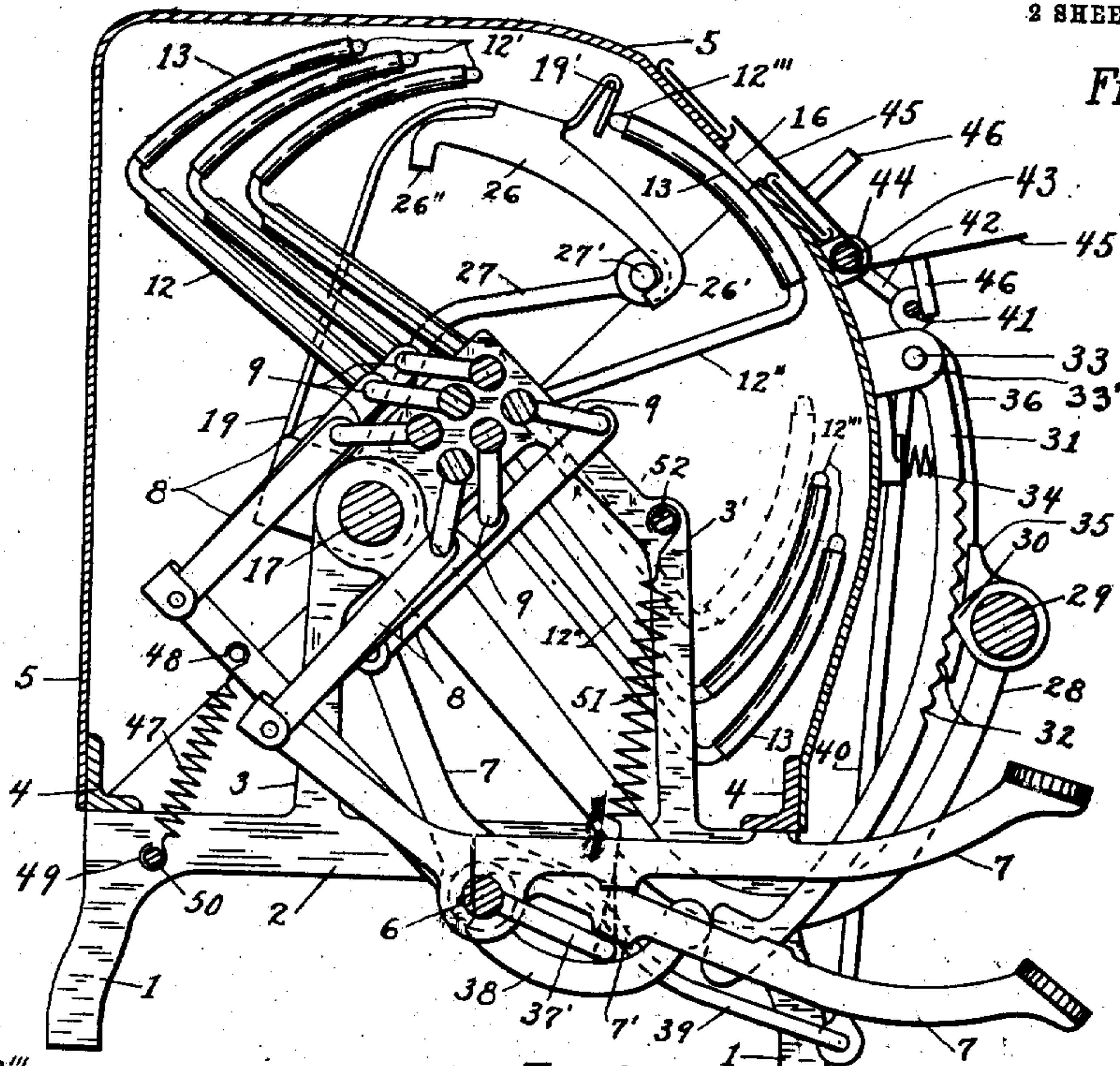


FIG. 1.

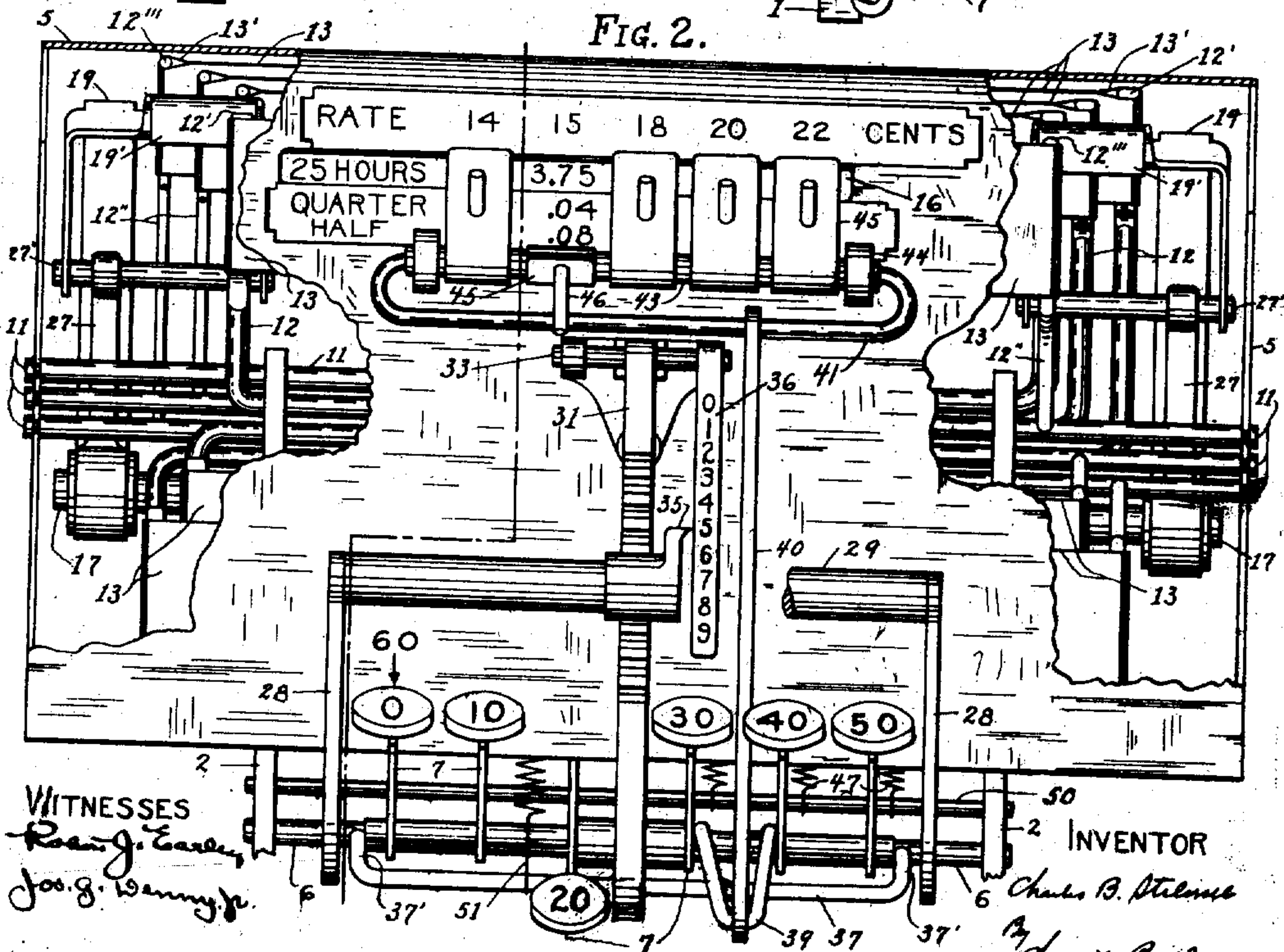


FIG. 2.

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2 SHEETS-SHEET 2.

FIG. 3.

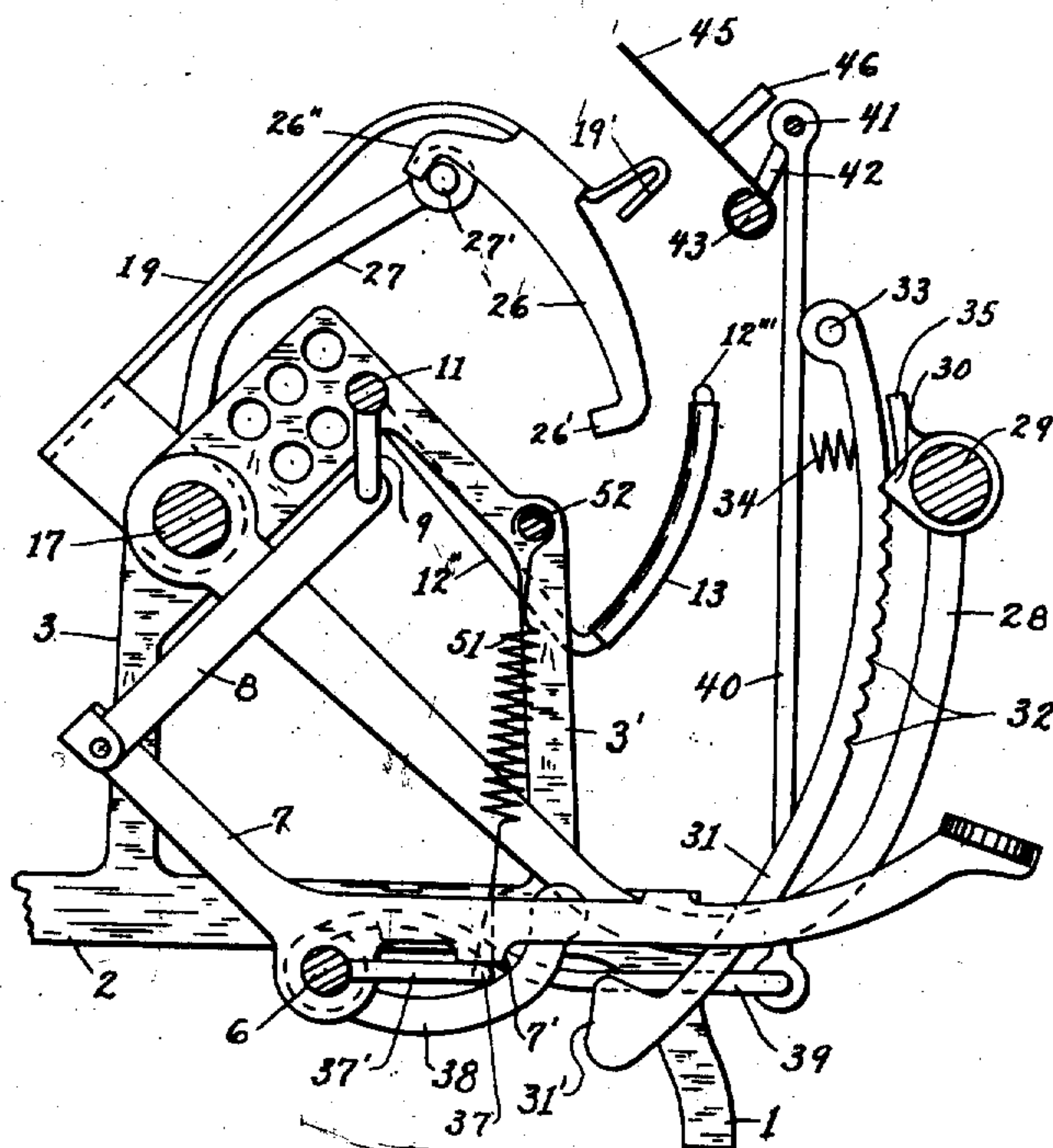


FIG. 5.

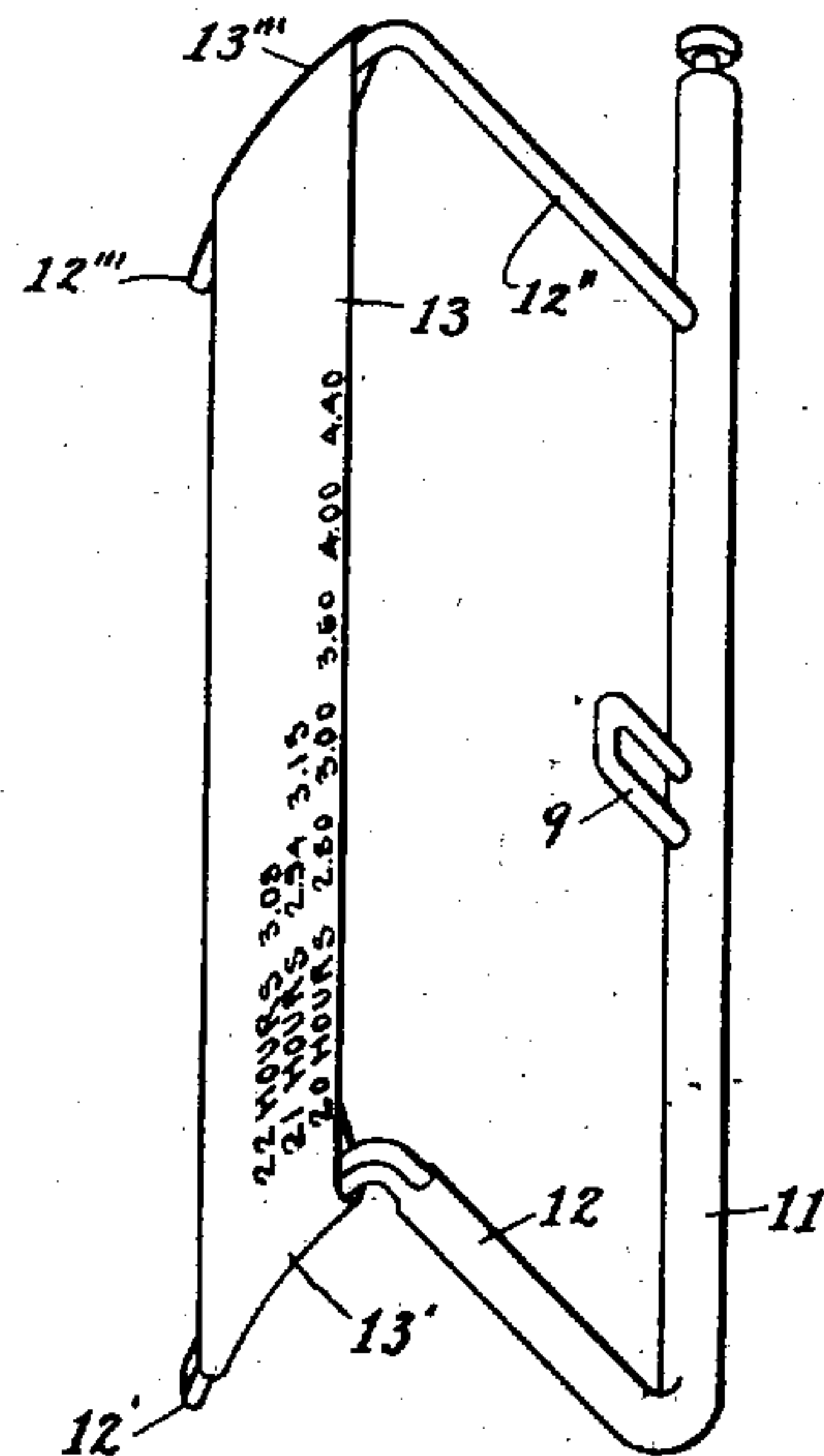
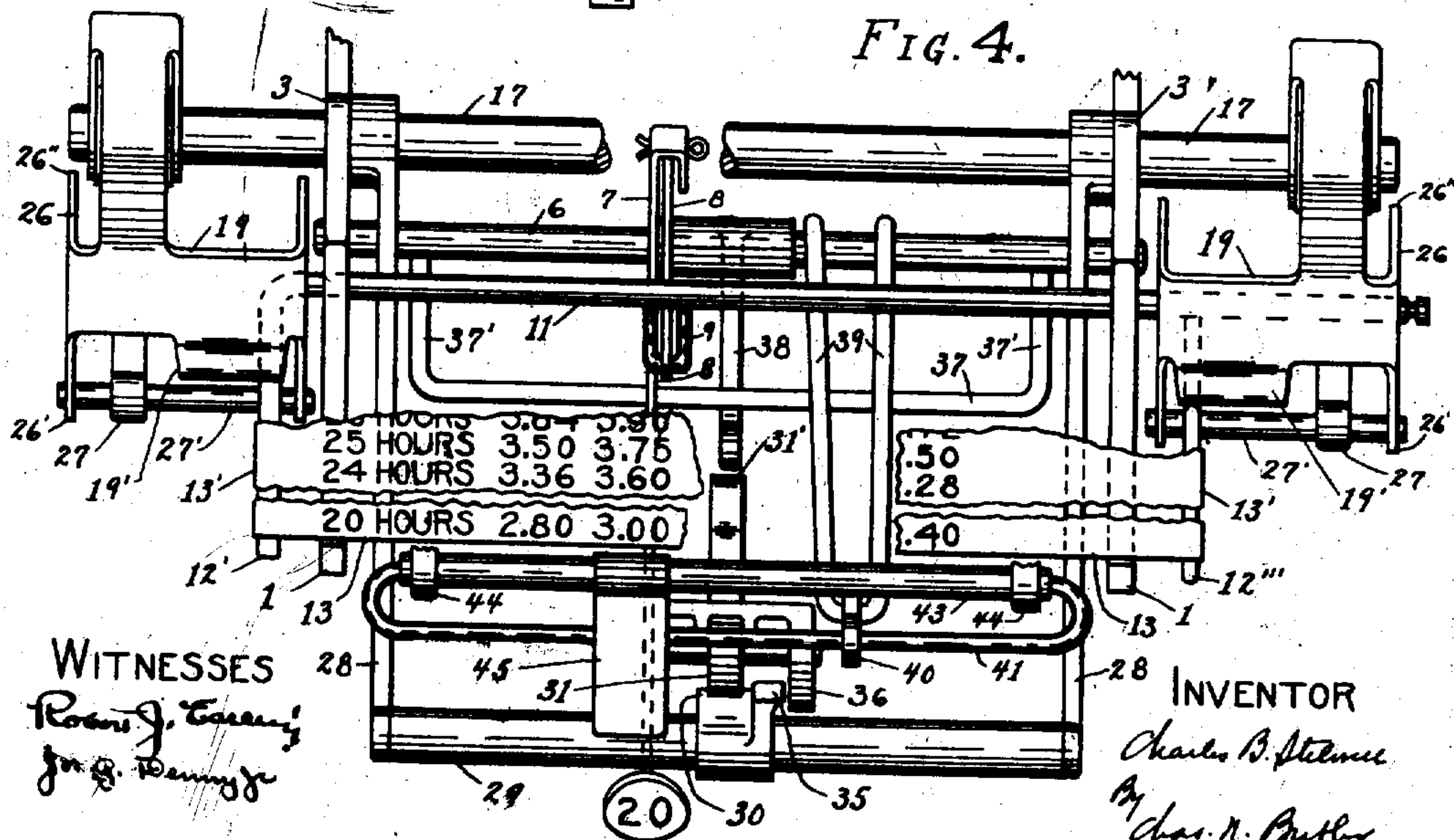


FIG. 4.



UNITED STATES PATENT OFFICE.

CHARLES B. STILWELL, OF WAYNE, PENNSYLVANIA.

INDICATING MECHANISM.

987,186.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed October 25, 1909. Serial No. 524,340.

To all whom it may concern:

Be it known that I, CHARLES B. STILWELL, a citizen of the United States, residing at Wayne, in the county of Delaware and State of Pennsylvania, have invented an Improved Indicating Mechanism, of which the following is a specification.

My invention is an improved indicating mechanism capable of general use but designed primarily for determining wages.

The characteristic features of my improvements will fully appear from the following description and the accompanying drawings in illustration thereof.

In the drawings, Figure 1 is a sectional elevation taken transversely through a machine embodying my improvements; Fig. 2 is a front elevation of the same with parts broken away to illustrate interior features; Fig. 3 is a transverse sectional elevation representing a second position of parts shown in Fig. 1; Fig. 4 is a plan view of parts of the machine from which the case has been removed; and Fig. 5 is a perspective view of a rocking frame which carries tabulated data used in the operation of the machine.

The machine shown in the drawings has a frame comprising the feet 1, the side bars 2 supported by the feet, the connected angular struts 3 and 3' supported by the side bars, the transverse bars 4 connecting the side bars, and the casing 5 connected with the transverse bars. The side bars 2 have journaled therein a transversely extending shaft 6 which has journaled thereon the levers 7 provided with keys bearing the numerals "0", "10", "20", "30", "40", and "50".

Links 8 connect the levers 7 with arms 9 fixed to shafts 11 which are journaled in the struts 3. The parts 11 have fixed thereto the bent arms 12 and 12'', the latter being elastic. The free ends 12' and 12''' of these arms engage the respective loops 13' and 13''' of sheets 13 of tabulated data, the parts 12'' and 12''' being sprung to effect the engagement and springing back to hold the sheets taut when released. When one of the levers 7 is depressed, as that having the key bearing the numeral 20, it acts through the connected link 8, arm 9, shaft 11 and arms 12, 12'', to move the corresponding sheet 13 under the sight aperture 16 of the case. In the illustration the sheet would bear a column of hours from 20 to 29 inclusive and in line with the respective hours the products resulting or wages earned for

given times at different hourly rates, as "14", "15", "18", "20", and "22" respectively, indicated upon the casing adjacent to the sight aperture 16 and in line with the corresponding product columns.

To limit the movement of the sheet 13, so that the desired number of hours with the corresponding wages at the different rates shall show through the aperture 16, a shaft 17 is journaled in the struts 3 and the bent arms 19 are journaled on the shaft, the arms being provided with the stops 19' in the paths of the members 12, 12''. Shoes 26 are fixed to the upper parts of the arms 19, the shoes having the lugs 26' and 26'' depending from opposite ends thereof. Arms 27, each carrying a cross bar 27', are fixed to the shaft 17, the cross bars being movable between the respective lugs 26' and 26''. Arms 28, connected by the bar 29, are fixed to the shaft 17, by means of which the positions of the arms 27 with their cross bars 27' and the movement permitted the shoe 26 can be varied so that the stops 19' can be placed in the position required for imposing the necessary limits on the movements of the members 12' and 12''. A tooth or pawl 30 is fixed to the cross bar 29 and a curved bar 31 is provided with the notches 32 with which the tooth is adapted to engage, the bar being adapted to rock on a pivotal bearing 33 carried by the brackets 33' on the case 5 and pressed outwardly against the tooth by the spring 34 carried by the case. A pointer 35 is carried by the bar 29 and is moved thereby along a digit scale 36, the tooth 30 engaging a notch 32 when the pointer registers with a digit. The limiting mechanism being set by moving the handle or bar 29 until the indicator 35 registers with the desired digit, as "5", and the tooth 30 being in engagement with the proper notch 32, such mechanism is held against movement and locked by the operation of depressing a key lever 7, through the pressure of a part 7' thereof upon a cross bar 37 connecting arms 37' fixed to the rock shaft 6 and the consequent movement, by the shaft, of the arm 38 fixed thereon into engagement with the cam 31' on the free end of the bar 31. An arm 39 is fixed to the shaft 6, so as to rock therewith, and is connected by a link 40 with a rocking cross bar 41 having the end members 42 connected with a shaft 43 journaled in bearings 44 on the case. Lids or covers 45, with pins 46 thereon, are jour-

naled on the shaft 43 and adapted to cover the respective columns of figures below the respective figures in the scale of rates. When the bar 41 is carried down through its connections with the downwardly moving lever 7, the lid is manually withdrawn from the column corresponding to the rate entering into the result or product desired. When the lever 7 rises, the cross bar 41 is caused to rise, engages the pin 46 of the withdrawn lid, and replaces the lid over the column. The levers 7, which operate the mechanisms carrying the rear set of sheets 13, are elevated by means of springs 47 passing from the connection 48 therewith to the connection 49 with the stationary rod 50. The levers 7 which operate the mechanisms carrying the front set of sheets 13 are elevated by gravity, the unbalanced mechanisms falling back from their elevated positions automatically. The shaft 6 is rocked, to elevate the parts 38 and 39, to disengage the bar 31 and lift the lid 45, by the action of a spring 51 which connects the bar 37 with the part 52 carried by the strut 3'.

It will appear from the foregoing description that, given the time and the rate, the product, or wages resulting, can be indicated in a very simple manner, without liability to error. If, for example, the time is twenty-five hours and the rate is fifteen cents per hour, the operator, by pressing down upon the bar 29 brings the pointer 35 opposite the numeral "5" on the scale 36 and the tooth 30 into engagement with a notch 32, whereby the cross bars 27', through the action of the connected arms 27 and 28, are positioned. Then, by pressing down the key lever 7 having the numeral 20 thereon, the corresponding parts 8, 9, 11, 12 and 12' are moved until the parts 12' and 12'' engage the parts 19' and the parts 26' engage the parts 27', when "25 hours" and the products resulting from combining the various rates therewith will lie directly beneath the aperture 16 through the case. The product at the "15" cent rate is shown to be "3.75" upon drawing back the lid 45 which lies beneath the rate "15". Numerals, showing the amount to be added to the product on account of fractional hours at a given rate, are carried by the case below the aperture in column with the rate scale carried by the case above the aperture. If the time, in the example, were 25½ hours or 25¼ hours at the "15" cent rate, the amount ".04" for the "quarter" and the amount ".08" for the "half" would show beneath "3.75" on withdrawing the lid and would be mentally combined therewith.

Upon releasing the depressed key lever, its key end rises and the mechanism is automatically restored to position for a further operation.

The peculiar nested relation of the mech-

anisms which carry the sheets of tabulated data, so that such sheets are held, at rest, one within the other, in plicated or nested relation and are separately movable therefrom to the same place of observation, secures desirable simplicity and compactness of construction.

Having described my invention, I claim:

1. In a machine of the character described, the combination of reciprocating mechanism bearing tabulated data, with reciprocating mechanism for limiting the movement of said mechanism first named, and selecting means whereby said second named mechanism can be positioned to stop said first named mechanism and present for observation desired matter contained in said tabulated data.
2. In a machine of the character described, a reciprocating member having tabulated data connected therewith and movable thereby, mechanism for reciprocating said member, a second reciprocating member having a part movable in the path of and adapted to be engaged by a part of said member first named, and selective means for positioning said second reciprocating member and stopping said reciprocating member first named so as to present at a definite place desired matter contained in said tabulated data.
3. In a machine of the character described, an oscillating member having tabulated data connected therewith and movable thereby, an oscillating lever, means whereby said lever oscillates said member, a second oscillating member adapted to be engaged by and stop said member first named, and selective means comprising a scale for positioning said second oscillating member so as to stop said first named oscillating member in position for exhibiting desired matter contained in said tabulated data.
4. In a machine of the character described, an oscillating member having tabulated data connected therewith and movable thereby, an oscillating lever, means whereby said lever operates said member, a second oscillating member movable into the path of and adapted to stop said oscillating member first named, a second reciprocating lever, means whereby said second lever is adapted to hold said second member in various positions, and means whereby said second lever is positioned so that desired matter is selected from said tabulated data and positioned for observation.
5. In a machine of the character described, a set of members bearing characters, a second set of members bearing tabulated data having a definite relation to the respective characters aforesaid, means whereby the respective character bearing members operate said data carrying members, mechanism adapted for limiting the movement of said data carrying members, means for holding

said mechanism in various positions, and a scale having a definite relation to said tabulated data whereby said means last named are positioned.

5 6. In a machine of the character described, a set of reciprocating members bearing characters, a second set of reciprocating members bearing data having a definite relation to the respective characters aforesaid, means
10 whereby the respective character bearing members operate said data carrying members, mechanism adapted for stopping said data carrying members in various positions, and indicating means having a definite relation to said data whereby said mechanism
15 last named is set.

7. In a machine of the character described, several oscillating mechanisms each bearing tabulated data, several oscillating levers
20 bearing characters each having a definite relation to a set of said data, means whereby each of said levers operates one of said mechanisms, an oscillating stop mechanism having one or more parts adapted for hold-
25 ing said mechanisms first named in various positions, an oscillating lever adapted for holding said stop mechanism in various positions, and indicating mechanism whereby said lever last named is positioned.

30 8. In a machine of the character described, several oscillating mechanisms each bearing a sheet of tabulated data, several oscillating levers bearing characters each having a definite relation to a set of said data, means
35 whereby each of said levers operates one of said mechanisms, an oscillating stop mechanism having one or more parts adapted for engaging said mechanisms first named, an oscillating lever adapted for holding said
40 stop mechanism in various positions, means for holding said lever last named in various positions, and indicating mechanism whereby said lever last named is positioned.

9. In a machine of the character described,
45 a rack, a scale, a reciprocating member movable along said scale and having means for engaging said rack, stop mechanism held in various positions by said member, and a reciprocating member bearing data positioned
50 by said stop mechanism.

10. In a machine of the character described, a stationary scale, an oscillating member

bearing tabulated data related to said scale, a second scale related to said tabulated data, mechanism whereby said member is reciprocated, and mechanism positioned by means
55 of said second scale for positioning said reciprocating member.

11. In a machine of the character described, a case having a sight aperture, a reciprocating member adapted for carrying columns
60 of tabulated data across said aperture, a set of separately movable devices adapted for covering the respective columns aforesaid, a lever connected with and adapted for operating said member, and means for automatically moving said devices into position for covering said columns when said lever is
65 free.

12. In a machine of the character described, 70 an oscillating rack, an oscillating lever having means for engaging said rack, a second oscillating lever, means operated by said second lever for holding said rack in engagement with said lever first named, mechanism movable by said second named lever,
75 and means operated by said first named lever for holding said mechanism in various positions.

13. In a machine of the character described, 80 a rock shaft, bent arms carried thereby, one of said arms being resilient, and a data bearing member carried by said arms.

14. In a machine of the character described, several journaled shafts, a pair of bent arms
85 carried by each of said shafts, a sheet of data carried by each pair of arms, and movable stop mechanism for limiting a movement of said arms.

15. In mechanism of the character described, 90 several pairs of rocking arms, a sheet of tabulated data carried by each pair of arms, means for rocking each pair of arms independently, and rocking stop mechanism for limiting the movements of said
95 arms and positioning said sheets for the observation of said data.

In witness whereof I have hereunto set my name this 23rd day of Oct., 1909, in the presence of two subscribing witnesses.

CHAS. B. STILWELL.

Witnesses:

ROBERT JAMES EARLEY,
JOS. G. DENNY, Jr.