

N. F. WHITNEY.
ELECTRIC ALARM CLOCK.

No. 521,840.

Patented June 26, 1894.

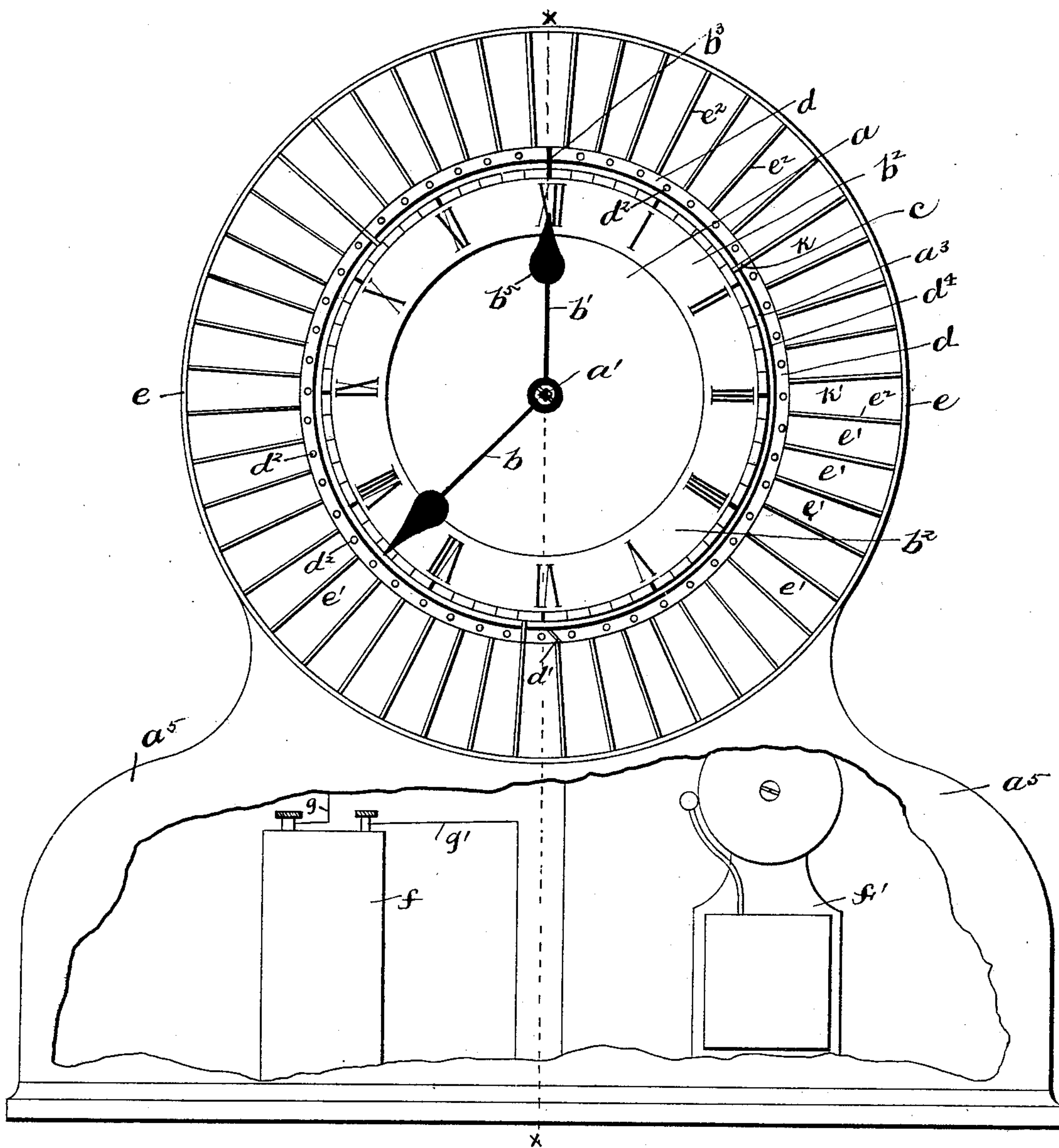


FIG. 1

WITNESSES:

H. B. Bradshaw
A. L. Phelps

INVENTOR

Nina F. Whitney
BY
Staley and Shepherd
ATTORNEYS.

(No Model.)

3 Sheets—Sheet 2.

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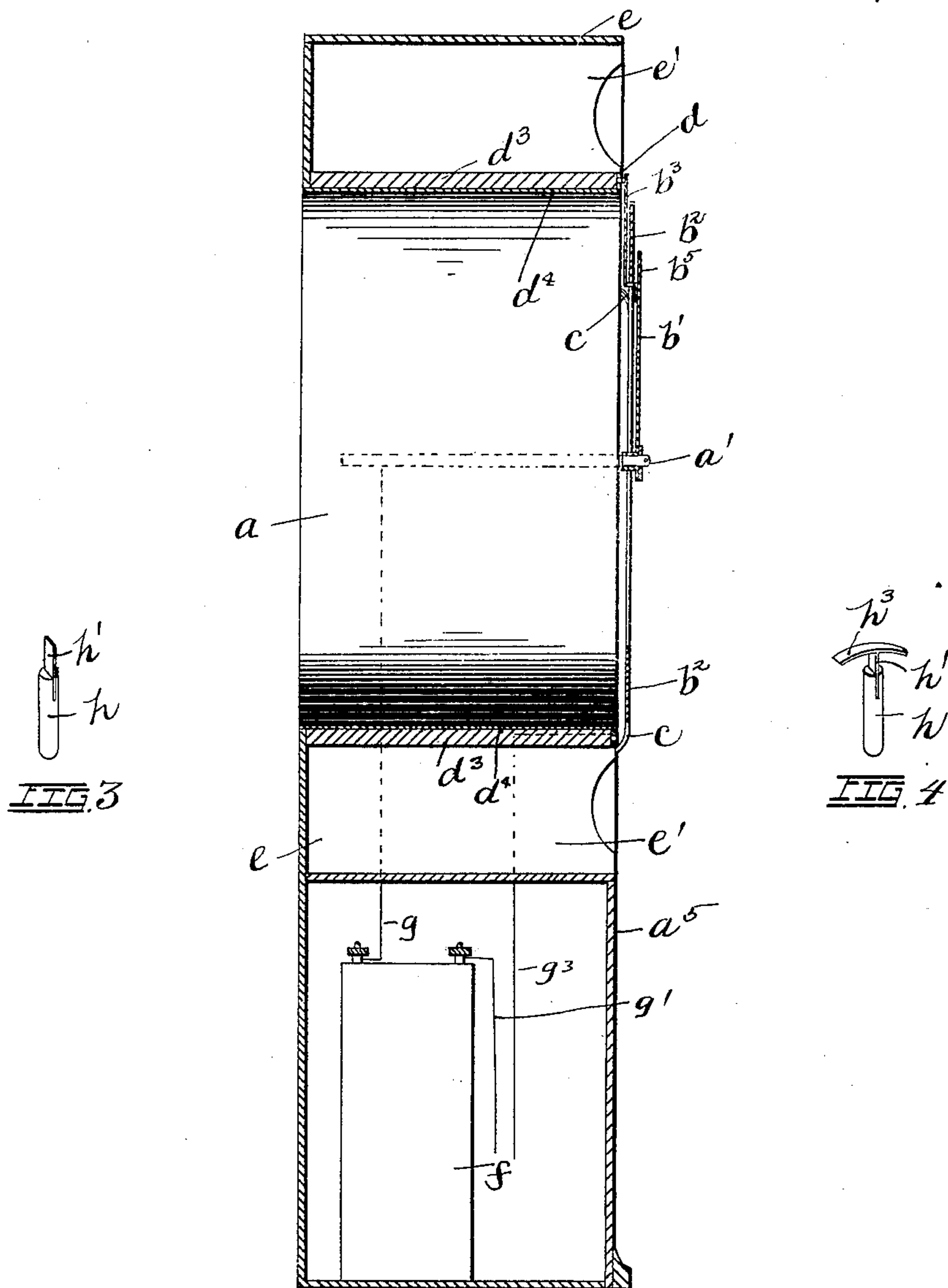
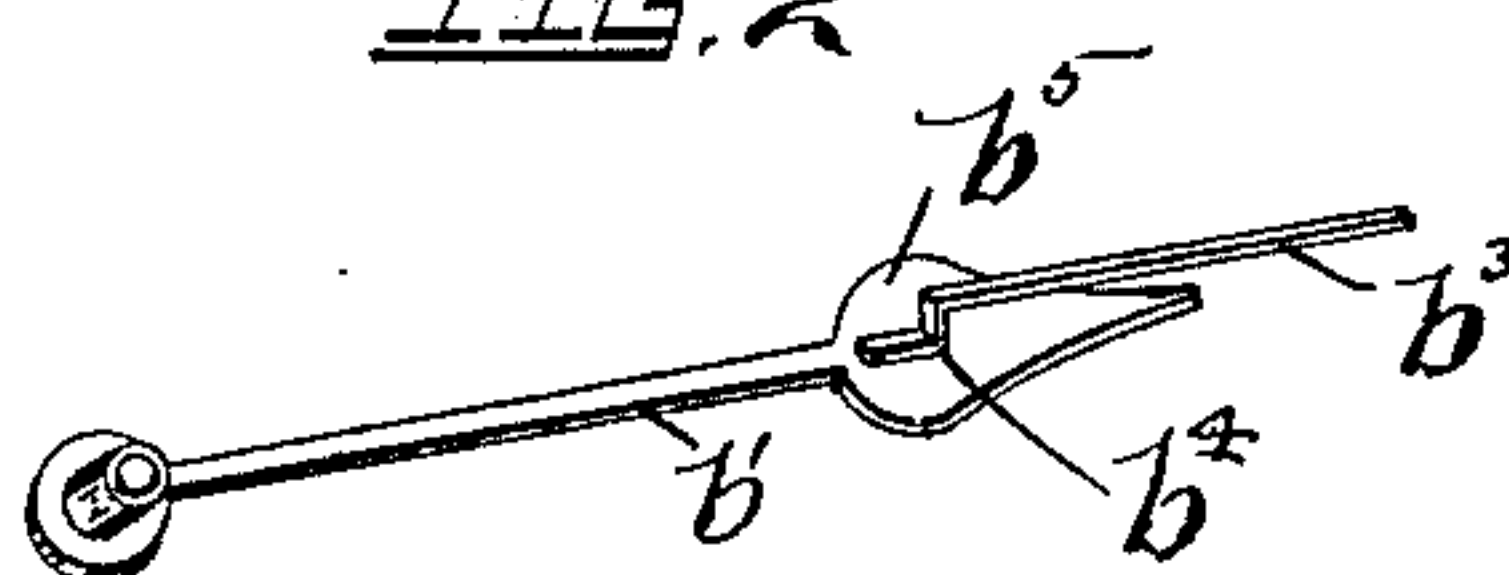


FIG. 2



III. 5

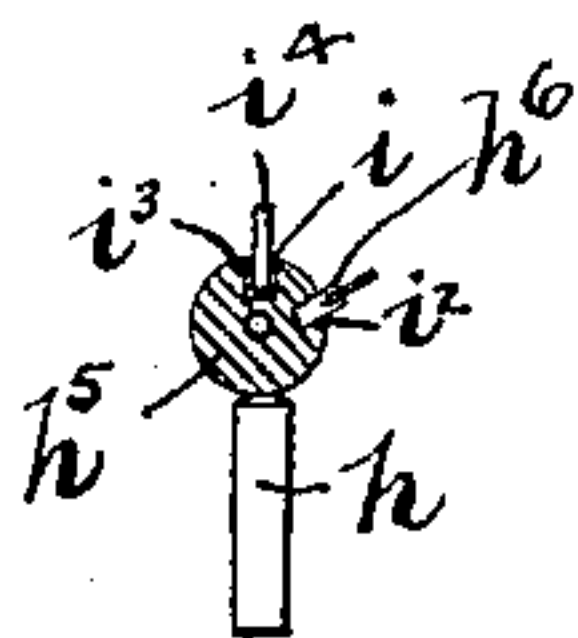


FIG. 6

WITNESSES:

H. B. Bradshaw
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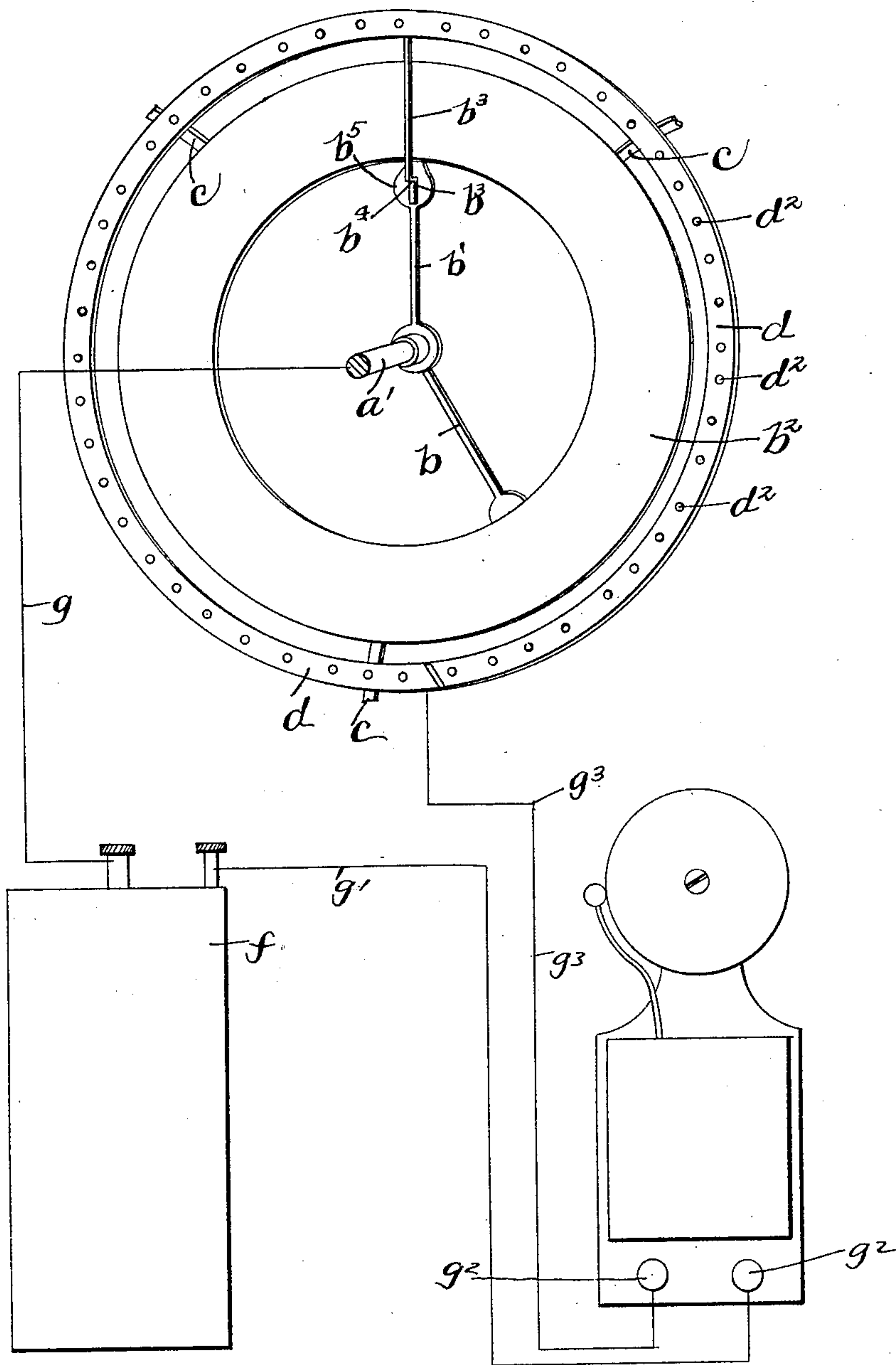


FIG. 7

WITNESSES:

H. B. Bradshaw
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INVENTOR

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UNITED STATES PATENT OFFICE.

NINA F. WHITNEY, OF COLUMBUS, OHIO.

ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 521,840, dated June 26, 1894.

Application filed December 2, 1893. Serial No. 492,579. (No model.)

To all whom it may concern:

Be it known that I, NINA F. WHITNEY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Electric Reminders, of which the following is a specification.

My invention relates to the improvement of electric reminders and the objects of my invention are to combine with an ordinary clock mechanism improved means for automatically sounding an alarm at any hour or fraction thereof during the day; to combine with said alarm mechanism means for supporting memorandum cards in radial alignment with the hour and hour fraction marks of the clock face, and to produce improvements in the details of construction which will be more specifically pointed out hereinafter. These objects I attain in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my improved reminder, showing a portion of the base wall broken away. Fig. 2 is a central vertical section on line $x x$ of Fig. 1. Fig. 3 is a detail view in perspective of one of the contact pins. Fig. 4 is a similar view showing a modification in the construction of said pins. Fig. 5 is a detail view in perspective of the hour hand which I employ. Fig. 6 is a detail view partly in section and partly in elevation, showing one of the contact pins and an attachment therefor and Fig. 7 is a view partly in perspective and partly in diagram illustrating the electrical connections with the various parts of my device.

Similar letters refer to similar parts throughout the several views.

a represents a clock, which as indicated, may be of the ordinary form of circular metallic incased clocks. Of this clock mechanism a' represents the hand post and $b b'$ the minute and hour hands respectively, while b^2 represents the clock face which has printed thereon, in the usual manner, the figures and lines indicating the hours and fractions thereof. As indicated in the drawings, I produce said clock face b^2 of any suitable non-conducting material and in the form of a ring, as indicated. This band shaped face I cause to be supported slightly in front of the usual posi-

tion of the clock face, by means of suitable supporting fingers or brackets c , the latter being bowed upwardly and having their outer ends connected with the rim of the clock case a^3 . As indicated, the hour hand b' is provided with an extension finger b^3 , said extension having, as indicated at b^4 , its rear end portion secured to and raised from the rear face of the hand dart or flattened hand end b^5 . This hand extension b^3 passes beneath and projects outward beyond the circular clock face b^2 and slightly beyond the clock case rim a^3 while the usual hand dart b^5 slightly overlaps in the usual manner the inner edge of the hour ring of said face.

d represents a metallic band or ring which is separated, as indicated at d' , and which is made to fit snugly about the forward end of the clock case rim a^3 . As shown in the drawings this band is provided at desired intervals with pin openings or sockets d^2 . In rear of the band I provide the periphery of the clock case with a suitable covering or filling d^3 the thickness of which is equal to the width of said band, and between said band and filling and the metallic clock case periphery, I provide a layer of suitable insulating material d^4 which may be of rubber or other similar substance.

About the outer edge of the band d and about the covering d^3 I provide a radial receptacle, indicated at e . In the construction of this rack I provide the same with radial pockets e' , the division plates e^2 of which radiate from equidistant points on the band d . Each of these pockets is intended to represent a fraction of an hour and the inner end of the pocket is arranged opposite and is a radial continuation of the desired hour fraction space on the clock face. Although but one of these pockets is shown for each fifteen minutes in the accompanying drawings, it is evident that either smaller or larger divisions may be employed, if desired.

As indicated at a^5 I unite with the periphery of the radial receptacles e a suitable base casing which may be of any desired height or form, and which is designed as a support for the reminding mechanism. Within this base I provide any suitable or well known form of electric battery f and an electric alarm bell f' . From one of the poles of said battery

runs a wire *g* which passing upward and into the clock case connects with the hand post *a'*. The other pole of the battery is by means of a wire *g'* connected with one of the bell posts *g*², while the remaining bell post is through a wire *g*³ electrically connected with the broken band *d*.

As indicated in Fig. 3, I employ one or more pins *h* which are adapted to enter one of the pin holes or sockets *d*² of the band *d* and which have projecting from their outer ends short hair springs *h'*.

In order to illustrate the operation of my reminding mechanism, we will assume that the party using the reminder desires to keep an appointment at two o'clock and another at three. On making these appointments he prepares a slip or card with a short memorandum of the appointment thereon, placing said cards in those pockets which are in radial alignment with the hour figures upon the clock face, which, in the hypothetical case above given, would be in the pockets *k k'*. At the same time the user places one of the pins *h* in that pin hole *d*² which is opposite each of the card containing pockets.

It will be observed that the extension finger *b*³ of the hour hand must travel in front of the band *d*, and therefore in the path of the projecting pins spring strip *h'*. When said hour hand has reached the two o'clock finger, it is evident that the contact of said hour hand extension with said pin strip extension must result in the closing of an electric circuit through the battery and bell and in a consequent ringing of the latter during said contact. Through this ringing of the bell the user of the reminder is notified that he has an engagement at that hour and by removing the memorandum ticket from the pocket rack which is immediately opposite the hour hand, he is enabled to recall the character of the engagement. It is very evident that when the hour hand has reached the second pin, which we have assumed is opposite the three o'clock mark, a similar operation to that above described, would be had. It is evident that any number of these pins may be employed and that by so arranging the pin holes in the band, said pins might be set at any desired distance one from the other, or opposite any hour fraction.

It is evident that there are many uses to which my improved reminder might be put, as indicating the time of departure of a train, the times for taking medicines, &c.

As indicated in Fig. 4 of the drawings, I may prolong the alarm sounded as above described, by providing the upper end of the spring *h'* with a top strip *h*³ which extends in the arc of the circle described by the hour hand and which, as will readily be seen, so increases the contact time between said hand and pin.

In case an engagement was made on one day for a certain hour on the next, which hour we will assume is at three p. m. I may

substitute for the pin extension *h'* a suitable extension on which is centrally journaled a small disk *h*⁵, the latter having in its periphery one or more pin sockets *i* and a pin socket *i*². As indicated at *i*³, each of the sockets *i* is lined with a suitable insulating substance and is adapted to receive what I term a dummy pin *i*⁴. Into the socket *i*² is adapted to be inserted a small reproduction of the pin *h* shown in Fig. 3, said reproduction being indicated at *h*⁶. Assuming as above described that the next day's engagement is at three o'clock, I insert said disk carrying pin in that pin hole of the band *d* which is opposite the three o'clock pocket in such position that the dummy pin *i*⁴ projects horizontally outward in the path of the hour hand extension. It is evident that when said hour hand extension at three o'clock a. m. comes into contact with said dummy pin, said contact will result when the hand has passed the dummy pin in so turning the disk *h*⁵ as to leave the pin *h*⁶ thereof in position for contact with said hour hand at the end of the next twelve hours.

From the construction and operation which I have herein shown and described, it will be seen that an exceedingly simple effectual reminding apparatus is provided at a comparatively low cost of manufacture and that the same will be of great utility.

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

1. In an electric reminder the combination with a clock mechanism, the hand post and hands and an extension of one of said hands, of a metallic band *d* adjacent thereto, pin holes in said band in radial alignment with the hour markings on said clock dial, pins adapted to be detachably supported in said pin holes and to project within the path of the clock hour hand extension, an electric connection between said pins and hands when the same are in contact through an electric source and bell and a circular rack about said clock face, substantially as and for the purpose specified.

2. In an electric reminder the combination with a clock mechanism, a ring face raised as described therefrom, the hand post and hands, and a depressed extension on one of said hands adapted to pass under said face ring, of a metallic band about said clock, pin holes therein opposite the hour and hour fraction marks of said clock face, pins having flexible endings adapted to be supported in said band pin holes and in the path of said hand extension and an electric circuit adapted to be closed through an electric battery and bell by contact of said hand and post endings, substantially as and for the purpose specified.

3. In an electric reminder the combination with a clock mechanism, a raised dial or face ring therefor as described, the hour and minute hands and a depressed extension finger on one of said hands the latter passing beneath the dial ring, of a metallic band about

said clock face, pin holes in said band opposite the dial marks, pins having flexible endings adapted to enter said holes and project within the path of the hand extension, a radial receptacle about said band and pockets therein in radial alignment with said pin holes and dial marks and means for closing an electric circuit through a battery and bell when said hand and pins are in contact, substantially as and for the purposes specified.

4. In an electric reminder the combination with a clock mechanism, a perforated band *d* adjacent thereto, of a pin *h* adapted to be in-

serted in any one of said perforations, a disk pivoted on said pin *h*, radially arranged pins on said disk which are adapted to be projected within the path of the clock hour hand and a portion of which pins are insulated from said disk and an electric connection through a battery and bell with the band *d* and said hour hand, substantially as and for the purpose specified.

NINA F. WHITNEY.

In presence of—

DUDLEY G. GRAY,

C. C. KING.