No. 778,490. PATENTED DEC. 27, 1904.

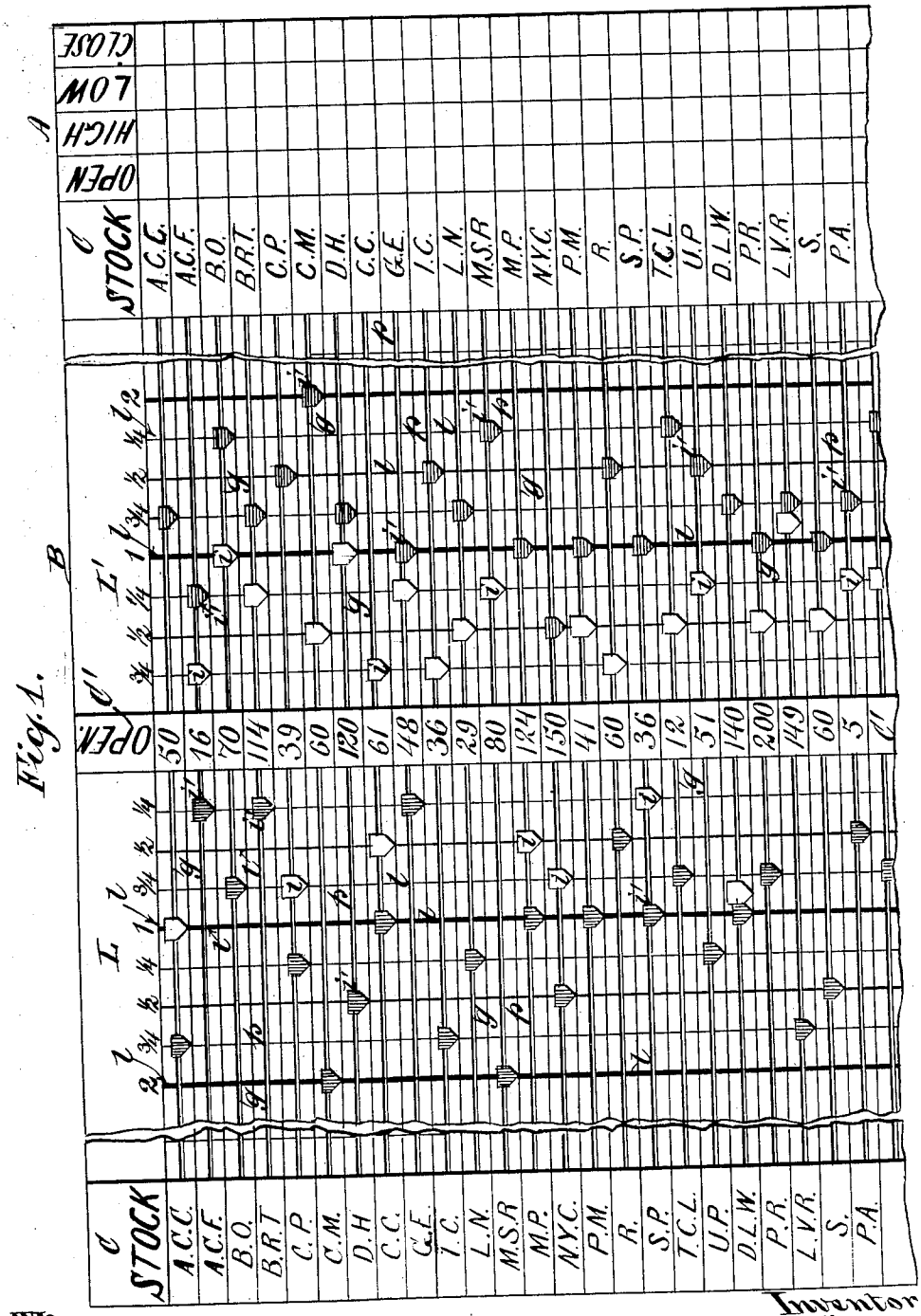
F. HOWARD.

BULLETIN BOARD.

APPLICATION FILED NOV. 19, 1903.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

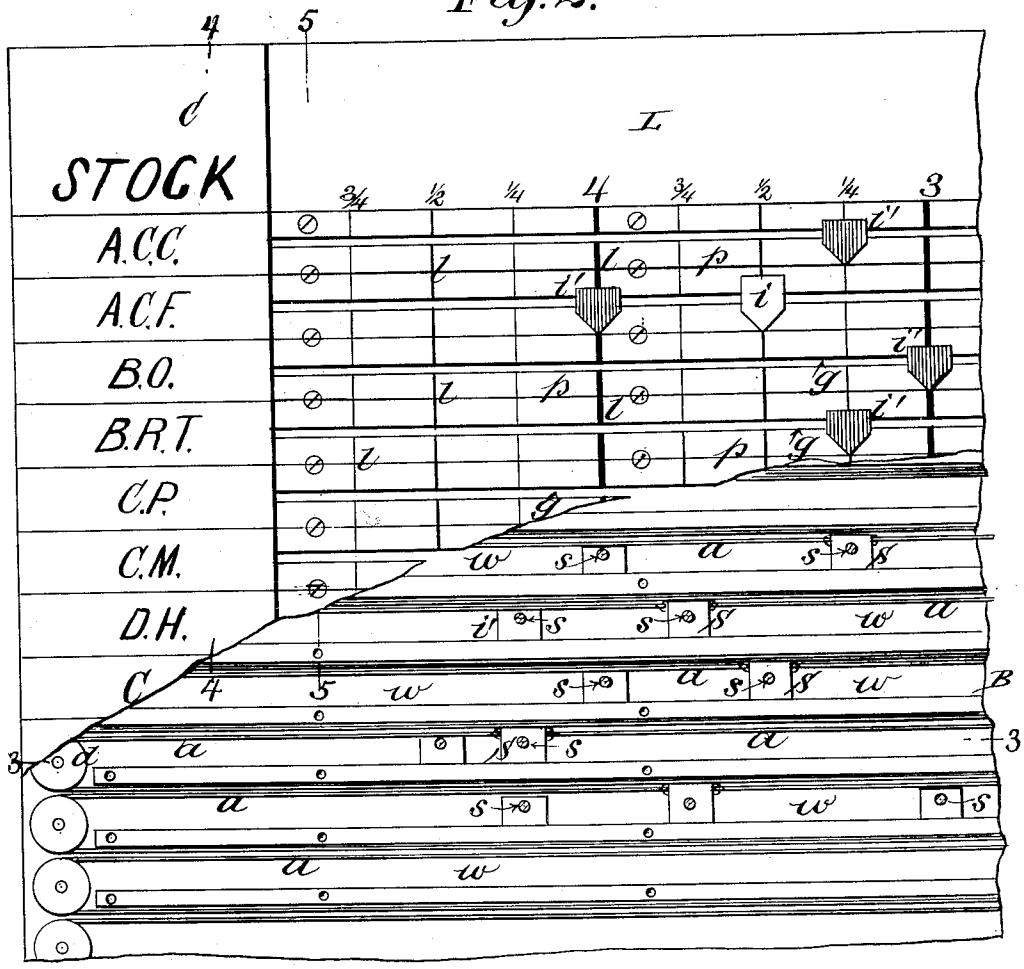
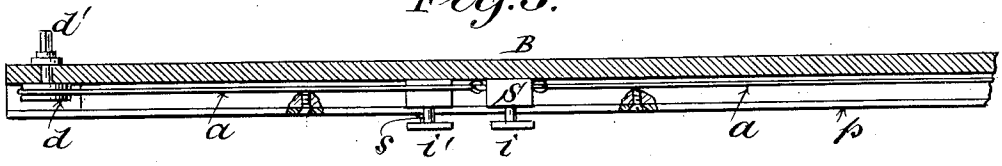


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

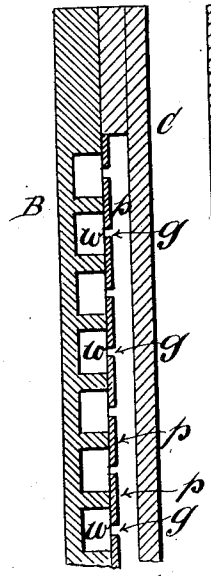


Fig. 6.

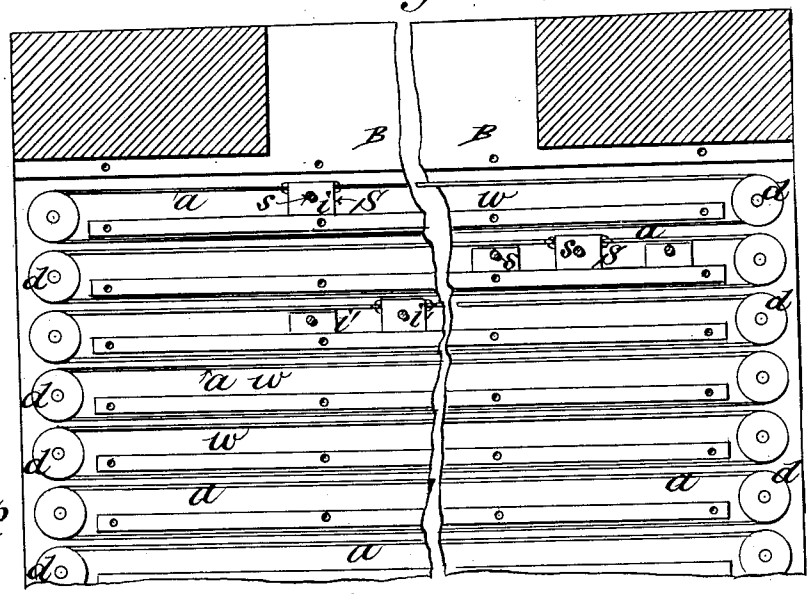


Fig. 5.

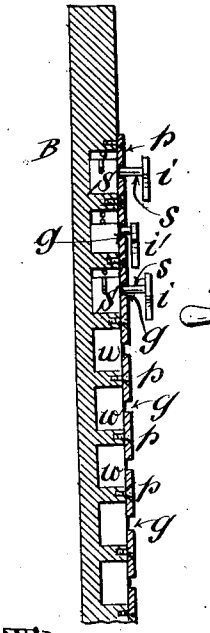


Fig. 8.

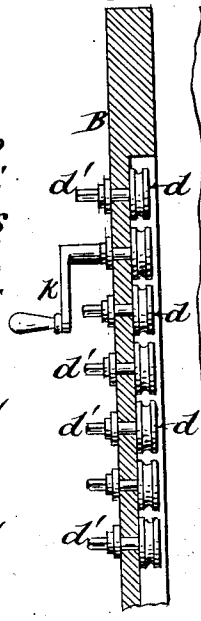


Fig. 7.

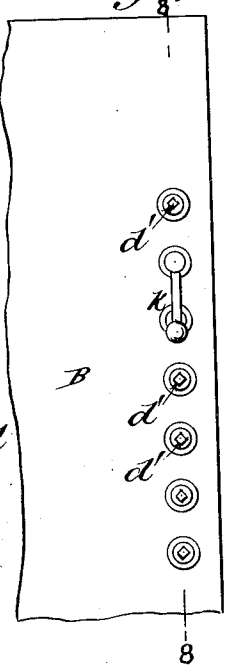


Fig. 9.



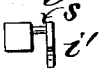
Fig. 11.



Fig. 10.



Fig. 12.



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No. 778,490. Patented December 27, 1904.

UNITED STATES PATENT OFFICE.

FRANK HOWARD, OF NEW YORK, N. Y.

BULLETIN-BOARD.

SPECIFICATION forming part of Letters Patent No. 778,490, dated December 27, 1904.

Application filed November 19, 1903. Serial No. 181,817.

To all whom it may concern:

Be it known that I, FRANK HOWARD, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Bulletin-Boards, of which the following is a specification sufficient to enable others skilled in the art to which the invention appertains to make and use the same.

My invention relates more particularly to bulletin-boards used for indicating the prices of stocks, products, &c., and is designed to afford a simple and effective means whereby fluctuations in prices may be quickly and conveniently indicated visually with the maximum and minimum quotations in full view for purposes of comparison.

The invention consists, primarily, in a so-called "board" or "frame" formed with a series of horizontal ways supporting movable indicators, each way representing a particular stock or product to be quoted, and the different fluctuations in price being indicated by the position of said indicators with relation to vertical lines upon the face of the board.

My invention also includes certain other special features in the construction and arrangement of parts hereinafter set forth.

In the accompanying drawings, Figure 1 represents a front elevation of my improved bulletin-board, parts being broken away. Fig. 2 is a view, upon an enlarged scale, of a portion of the bulletin-board. Fig. 3 is a section upon plane of line 3 3, Fig. 2. Fig. 4 is a section upon plane of line 4 4, Fig. 2, the sliding blocks and endless carriers being omitted; Fig. 5, a section upon plane of line 5 5, Fig. 2; Fig. 6, a front view of portions of the board, the front plates being removed. Fig. 7 is a rear view of a portion of the board, showing means for actuating the indicator-blocks. Fig. 8 is a section upon plane of line 8 8, Fig. 7. Figs. 8 and 9 represent, respectively, a rear and side view of one of the primary indicators. Figs. 11 and 12 represent, respectively, a rear and side view of one of the secondary indicators.

In the drawings, B represents a base or board of any desired or suitable structure formed with horizontal grooves or ways *w w* for the reception and support of movable indicators.

At either end of the board B is arranged a column C C, in which is listed the stocks or products to be quoted. Intermediate between these list-columns is another, C′, which may be designated as the "opening" column, since it is used to indicate the price of the several stocks or products at the beginning of the market for the day.

A is an auxiliary extension of the board, which may be used in summarizing results or for any other purpose and forms no essential part of my invention.

It is obvious that only a single list-column C may be used, if preferred.

The vertical lines *l l* are formed on the board in any suitable manner and are preferably equidistant. They are used to indicate points or variations in price, those upon one side of the opening column C′ indicating increase and those upon the other side decrease in price. Thus in the drawings the series L on the left are marked to indicate a rise in price, reading from the opening column C′ toward the left, while the series L′ on the right of said column C′ are marked to indicate a decline in price as read toward the right. This arrangement may of course be reversed, if preferred.

The movable indicators *i i′* may be variously formed and supported, and I do not confine myself to the identical construction of parts shown in this respect, since indicators of any kind movably supported on horizontal ways may be used in conjunction with the columns C C′ and series of lines L L′. In the structure illustrated in the accompanying drawings these indicators *i i′* are attached by studs *s s* to blocks S S, which rest in the ways *w w*, the latter consisting in this case of a series of horizontal grooves extending from one end of the board B to the other.

i represents the primary indicators used to indicate fluctuations in price, one such indicator being situated in each of the horizontal ways *w w*. These primary indicators *i* may be used alone, if desired, and will then simply indicate the price of a stock or product for the time being. I prefer, however, to use in

conjunction with the primary or price indicators i secondary indicators i' i', two in each way, one on either side of the primary indicator i. As a result when a primary indicator i is moved in either direction a distance from the opening column C' greater than at any prior time during the day's market it will advance the one or the other of the auxiliary indicators i' i' and when next retracted toward the opening column C' will leave such auxiliary indicator to represent the highest or lowest quotations reached up to that time, as the case may be. Thus a glance at the board will indicate not only the present price of a stock or product, but also the highest as well as the lowest previous quotations therefor, it being understood that at the opening of the market to be quoted all the indicators i i' are together at the opening column C', under which they are free to pass.

p p are strips or plates, preferably of metal, secured to the side walls of the ways w w and of a width sufficient to create narrow grooves g g between their opposed edges through which the indicator-studs s s protrude, as will be seen by reference to Fig. 5. The strips p p afford the requisite surface upon which to mark the vertical and horizontal subdivisions of the face of the board.

It is obvious that in so far as my invention is concerned in a broad sense it is not material how the indicators are moved along the ways, and this can be accomplished directly by hand, if desirable, from the front of the board. In order, however, to leave the front of the board free and unobstructed, it is desirable to employ means whereby the indicators may be moved indirectly, and this may be effected by resort to many mechanical expedients. In the drawings I have shown the primary indicators i i as attached to endless belts or cords a a passing over pulleys d d at opposite ends of the board, as will be seen by reference to Fig. 6. The shanks d' d' of the pulleys d d at one end of the board being formed with square or other polygonal shaped ends for the reception of a crank-key k, as shown in Figs. 7 and 8, it is obvious that a particular cord a may be readily manipulated to move a primary indicator i in either direction, and this may be accomplished from the rear of the board, if desired.

It will be seen that the distinguishing feature of my invention is the use of the indicators movably supported on horizontal ways, each representing a particular stock or product to be quoted, in conjunction with vertical lines indicating an increase or decrease in price, and for this reason I do not wish to confine myself strictly to the identical form and arrangement of parts shown in the drawings, since the apparatus may be modified materially in detail without departing from the spirit and intent of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a bulletin-board formed with a series of ways representing stocks or products to be quoted, with a column arranged at right angles to said ways for prior quotations and with two series of lines extending laterally from said column for prior quotations, one series of lines representing the advance in points or prices, and the other series of lines representing the decline in points together with a series of indicators movable on said ways, for the purpose set forth.

2. The combination of a bulletin-board formed with a series of ways representing stocks or products to be quoted with a column arranged at right angles to said ways for prior quotations and with two series of lines extending laterally from said column for prior quotations, one series of lines representing the advance in points or prices, and the other series of lines representing the decline in points together with a series of indicators movable on said ways, and means for maintaining them in prescribed positions thereon, for the purpose set forth.

3. The combination of a bulletin-board formed with a series of horizontal ways representing the stocks or products to be quoted with a central vertical column for prior quotations, and with two lateral series of vertical lines one representing the advance in points or prices, and the other representing the decline in points or prices, together with a series of indicators movable on said ways, for the purpose set forth.

4. The combination of a bulletin-board formed with a series of horizontal ways representing the stocks or products to be quoted, with a central vertical column for prior quotations, and with two lateral series of vertical lines, one representing the advance in points or prices, and the other representing the decline in points or prices together with a series of indicators movable in said ways, and means for sliding said indicators thereon, for the purpose described.

5. A bulletin-board formed with a series of horizontal ways representing the stocks or products to be quoted, a central "opening" vertical column for prior quotations, two laterally-arranged series of vertical lines one representing the advance in points or prices and the other representing the decline in points or prices and two vertical end columns indicating the stocks or products which the horizontal ways represent, together with a series of indicators movable on said horizontal ways and means for sliding said indicators thereon, for the purpose described.

6. A bulletin-board formed with a series of horizontal ways representing stocks or products to be quoted, vertical lines representing

advance in points or prices, vertical lines representing decline in points or prices, indicators movable on said horizontal ways attached to actuating-cords, said actuating-cords passing over sustaining-pulleys, said pulleys and means for rotating the same for the purpose set forth.

7. A bulletin-board formed with a series of horizontal ways representing stocks or products to be quoted, vertical lines representing advance in points or prices, vertical lines representing decline in points or prices, a series of three movable indicators in each horizontal way, the primary or central one representing the actual present price of a stock or product, and the other two representing respectively the one the highest quotation and the other the lowest quotation, together with means for moving said central or primary indicator in either direction upon its supporting-way, for the purpose described.

8. A bulletin-board formed with a series of horizontal ways representing stocks or products to be quoted a central "opening" column representing prior quotations, vertical lines on one side of said "opening" column representing advance in points or prices, vertical lines on the other side of said "opening" column representing decline in points or prices, a series of movable indicators in each horizontal way, the primary or central one representing the actual present price of a stock or product, and the other two representing respectively the one the highest quotation and the other the lowest quotation, together with means for moving said central or primary indicator in either direction upon its supporting-way, for the purpose described.

FRANK HOWARD.

Witnesses:
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