July 30, 1929. F. P. A. WEYLER ET AL 1,722,447

ALARM

Filed March 24, 1926

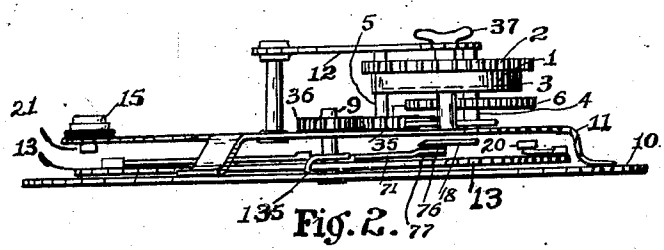


Fig. 2.

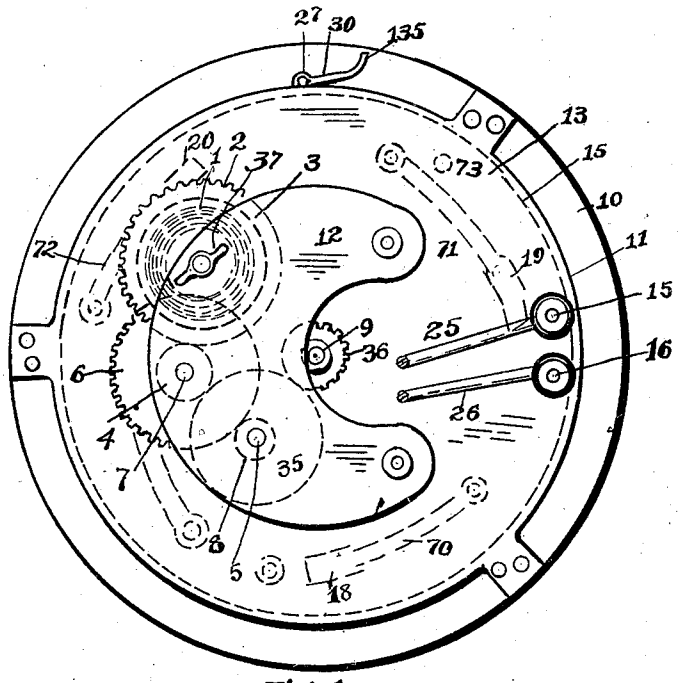


Fig. 1.

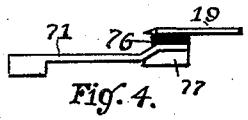


Fig. 4.

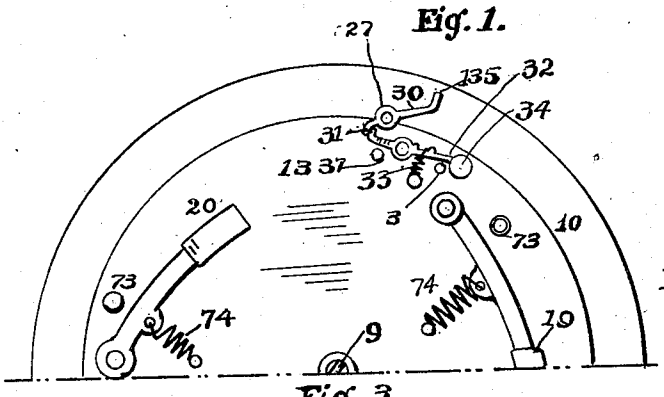


Fig. 3.

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UNITED STATES PATENT OFFICE.

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ALARM.

Application filed March 24, 1926. Serial No. 96,971.

Our device is intended to be used with the standard desk telephone and its connections. Merely by releasing a trigger a mechanism is set in motion that will give a signal of unmistakable character at the switch-board to which the telephone is connected, and will repeat this signal automatically a number of times, and, then, automatically clear the line for ordinary telephonic communication.

Fig. 1 shows a plan of the device; Fig. 2 an elevation; Fig. 3 is a plan of half the device (the upper half of the device as shown in Fig. 1) with the parts above the carrier 13 removed. Fig. 4 is an elevation of the swinging brush carrying arm.

The device comprises a spring as a source of power, a train of gearing in a frame especially adapted to fit in the base of a desk telephone of the standard form and a rotating brush carrier driven by the gearing that is put into operation by releasing a trigger. Terminals for the calling wires of the electric circuit are provided and brushes that will contact with contacts electrically connected to these terminals only when the brush carrier rotates, and arranged on the brush carrier to make and break the circuit repeatedly in a fixed order of lengths of makes and breaks.

The barrel, 3, contains a spring, 1. 37 indicates the usual winding device. 12 is an upper plate, the circumference of which rests against the inside of the telephone base. The barrel, 3, has the gear, 2, that meshes with the pinion, 4, on the spindle, 7, carrying also the gear wheel, 6, that meshes with the pinion, 8, mounted on the spindle, 5, that carries the gear, 35. All these parts are carried between the plates, 12, and the plate, 11, which also fits against the inside of the base of the telephone. The gear, 35, meshes with the pinion, 36, placed on the spindle, 9, that is mounted in bearings on the plate, 11, and plate, 10, below the plate, 11 also fitting against the inside of the base of the telephone. In practice, we mount this spindle, 9, centrally in the device. The spindle, 9, has the brush carrier, 13, that rotates between the plates, 10, and 11.

The terminals 15, 16, are placed in the plate, 11, but are insulated from it and from each other. They are connected electrically to the call wires, 25, and 26, that form the ordinary telephone circuit. In practice, we place these terminals above the plate, 11, and contacts, 21, 21, in electrical connection with them on the lower side of the plate, 11. Supported from the rotating carrier, 13, are the brushes 20, 17, 18 and 19, each long enough to contact simultaneously with both of the contacts, 21, 21, and set at determined distances apart. We prefer to vary the length of the brushes and their distances apart, to make the signals more distinctive. These brushes are mounted on the brush carrier so that they cannot contact with the contacts, 21, 21, unless the brush carrier, 13, is revolving. These brushes are mounted on the pivoted arms, 70, 71, 72 that are provided with the stops, 73, 73, 73, limiting their centrifugal motion. 74, 74, 74, are springs acting centripetally on the arms, and 75, 75, 75, 76, 76, 76, are insulations insulating the brushes from the arms. We prefer to place weights, 77, 77, 77, on these arms and to place the pivots so that they will pass in revolving directly below the contacts, 21, 21. A trigger, 27, is allowed to project through the base of the telephone. This trigger we arrange in practice as follows:—the lever, 30, engages with the catch, 31, on a pivoted arm, 32, on the brush carrier, 13, that is acted on centripetally lightly by the spring, 33. 31 is a stop limiting the action of this spring on the arm, 32. The end, 135, should be inconspicuous. 34 is a weight swinging outward as the carrier 13 gathers speed in revolving.

When the trigger is sprung the gear train revolves and the brush carriers' revolution will move the path of the catch 31 inward so that it will not catch the trigger. On the first or second revolution the brushes will begin to make contact with the contacts 21, 21, making and breaking the circuit continuously and giving repeatedly the conventional signal at the switch board. These signals by their rapidity and regularity will be differentiated from any jiggling of the telephone hook, and will be repeated perhaps 50 times. When the brush carrier slows down the brushes will be drawn inward by the spring, 74, 74, 74, and their paths will be inside the contacts, 21, 21, and the spring, 33, will bring the catch, 31, into a path to contact with the lever, 30, and stop the carrier 13's revolution. The trigger is so placed that it will stop the carrier's revolution when

none of the brushes is opposite any two of the contacts, 21, 21. Thus a thorough assurance is given that the interruption of telephone usage in the usual manner will extend only while the signals are being actually given perhaps for 40 seconds. The brushes can be set solidly on the brush carrier and the trigger depended on to restore the normal circuit.

We claim:—

1. In an alarm for a pillar desk telephonic transmitter having a shallow pedestal base of substantial diameter, the combination of a fly wheel revolving in a horizontal plane situated in said pedestal and having a diameter nearly of the interior diameter of the pedestal, a gear train and clock spring mechanism whereby the fly wheel is given a multiple rotation, geared to said fly wheel, multiple electric contacts carried by said fly wheel and revolving with it and insulated from each other and from the fly wheel and stationary electrical contacts carried from the said pedestal making contact with the electrical contacts carried by the said fly wheel and a trigger for releasing the gear train.

2. The device as defined in claim 1 with the following additional elements:—said parts being combined with arms pivoted toward one end to said fly wheel bearing the said electrical contacts carried by the fly wheel at their free ends and springs drawing their free ends inward whereby these arms and contacts are moved outward by centrifugal force when the revolution of the fly wheel attains its normal speed and inward when its revolution is stopped.

3. In a signalling device for telephones of the desk type with a circular base having the entire mechanism thereof contained in and concealed in the said base of the phone, except a slightly projecting trigger, the combination of contacts placed in electrical connection with the wires of the calling circuit of the telephone, and insulated from each other, a fly wheel horizontally positioned in said telephone base, a trigger projecting through the walls of said base, clockwork driving said fly wheel placed in said base and movable contacts closing the circuit between the said contacts, placed in electrical connection with the calling circuit when the fly wheel is revolving and out of contact therewith, when the fly wheel is at rest.

4. The device as defined in claim 3 wherein the contacts closing the circuit between the contacts on the wires of the calling circuit are placed on arms pivoted to the fly wheel, said arms swinging out centrifugally when the fly wheel is in rotation and retreating inward when the fly wheel is at rest.

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