

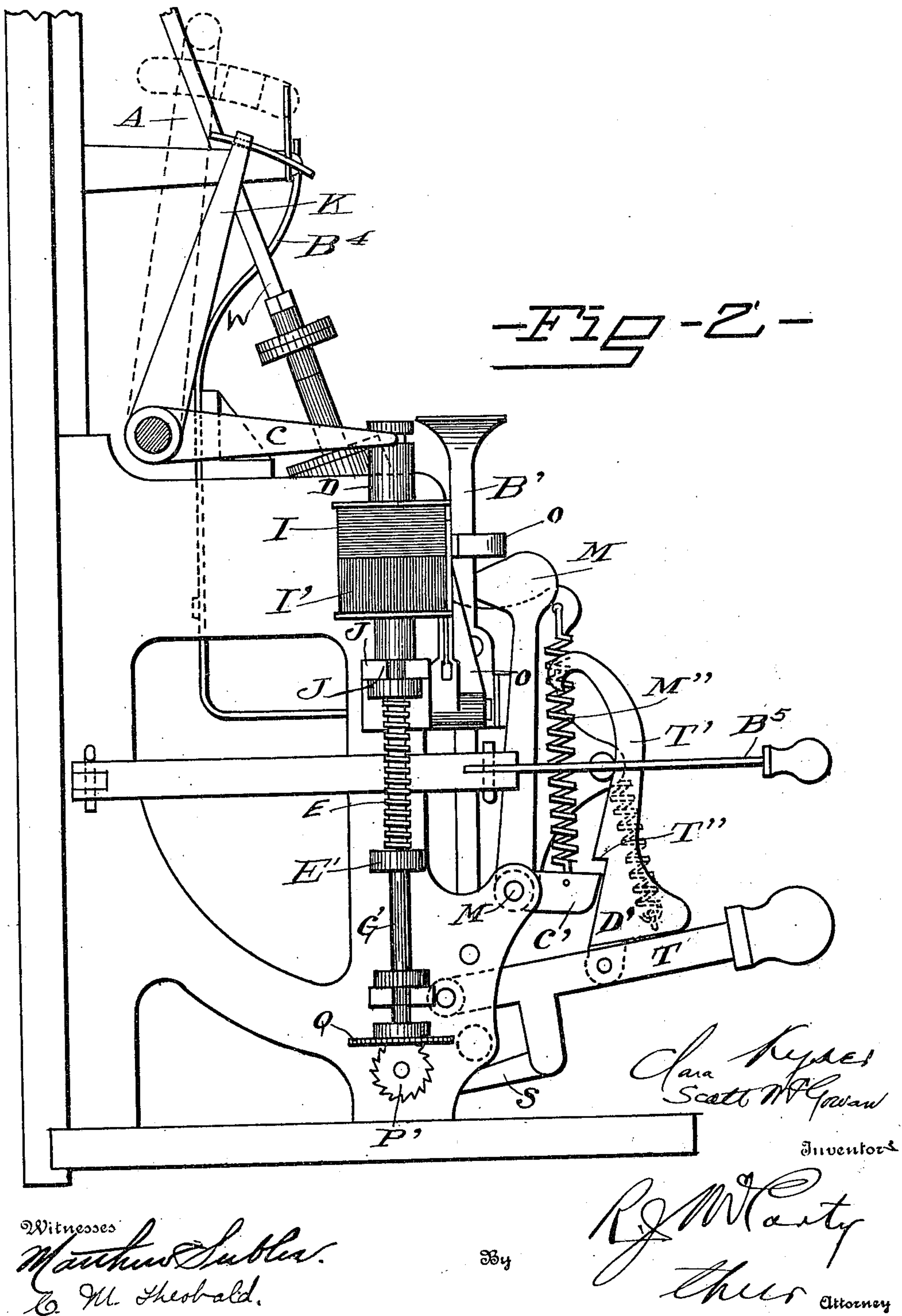
No. 831,790.

PATENTED SEPT. 25, 1906.

C. KYSER & S. MCGOWAN.
PRINTING RIBBON SHIFTER FOR WORKMEN TIME CLOCKS.

APPLICATION FILED JAN. 2, 1906.

3 SHEETS—SHEET 2.



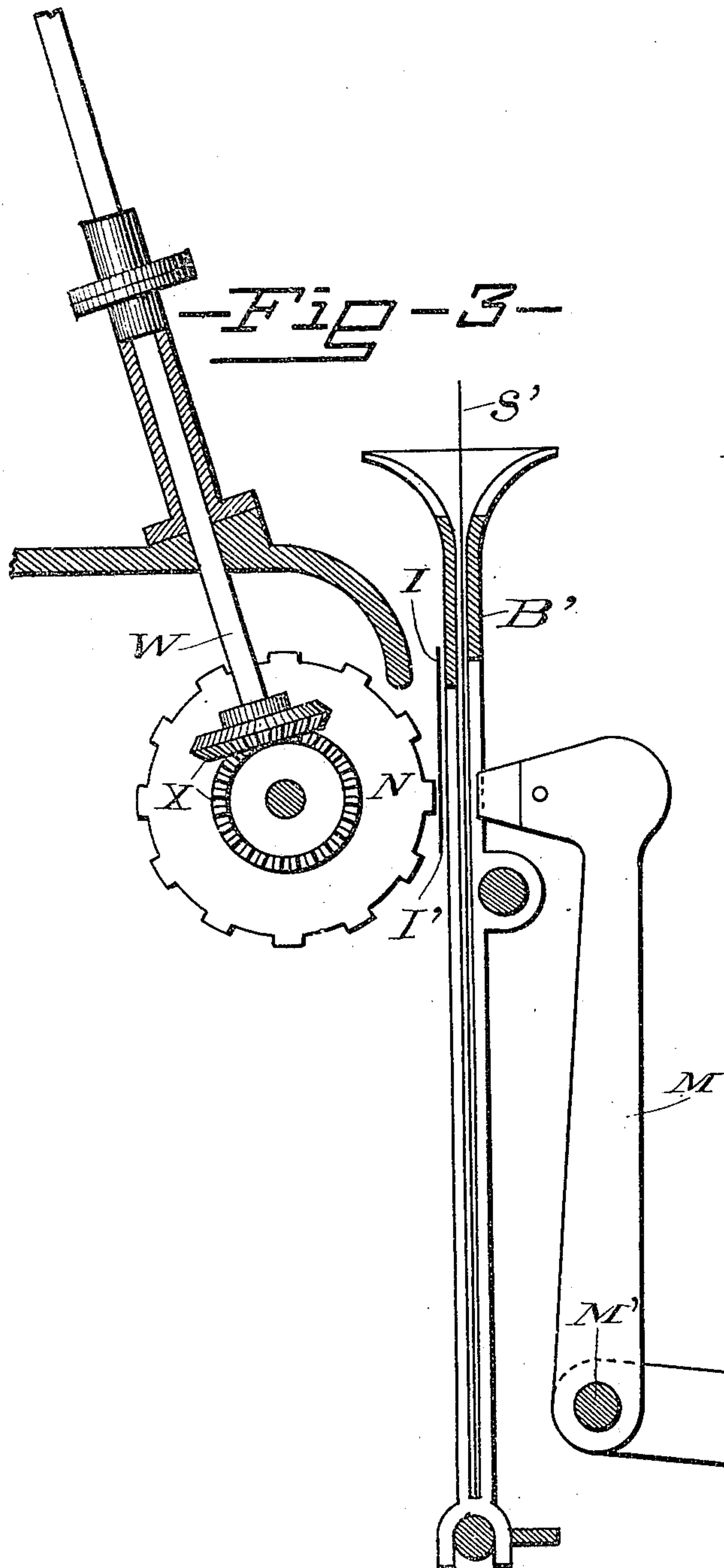
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UNITED STATES PATENT OFFICE.

CLARA KYSER AND SCOTT MCGOWAN, OF DAYTON, OHIO, ASSIGNORS TO
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PRINTING-RIBBON SHIFTER FOR WORKMEN TIME-CLOCKS.

No. 831,790.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed January 2, 1906. Serial No. 294,051.

To all whom it may concern:

Be it known that we, CLARA KYSER and SCOTT MCGOWAN, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Printing-Ribbon Shifters for Workmen Time-Clocks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements applicable to workmen time-clocks, such clocks being employed to record the time upon which workmen enter their employment and leave said employment for the day.

The invention relates specifically to means for shifting a two-colored printing-ribbon so that workmen's time-cards may have printed thereon in appropriate color the time of entering and the time of departing each day. For example, regular workmen may have the time of beginning and leaving the works or factory each day printed upon their cards in one color—for example, blue—while irregular workmen may have the time printed upon their cards in different color—for example, red—so that each class of workmen may be readily distinguished by the color in which the time is printed upon their respective cards.

Preceding a detail description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is a front elevation of the lower portion of a workman's time-recording clock having our improvements applied thereto. Fig. 2 is a side elevation. Fig. 3 is a detail elevation of the card chute or holder and the printing devices.

In a detail description of the invention similar reference characters indicate corresponding parts.

The clock mechanism is omitted from the drawings, for the reason that it is not involved in the present invention, and only certain portions of the mechanism appertaining to the printing devices which print

upon the cards the various times are illustrated in the drawings.

Proceeding immediately to a description of the features involved in the present improvements, A designates a crank which is instrumental in shifting the ribbon-carriage vertically in order to present the two-colored portions of the ribbon in printing positions relative to the time-printing wheel. This ribbon-shifting crank is connected to a rock-shaft B, suitably mounted in the frame, and extending from which shaft are arms C C, bifurcated at their outer ends. The outer ends of these arms are loosely connected in grooves to the upper ends of sleeves D, upon which ribbon-spools D' are mounted. The sleeves D rest upon stationary bars J. The upright shafts G and G' are surrounded at their lower portions by springs E, having their ends inclosed by collars E', the lower collars being fixed to said shafts, while the upper collars slide thereon and are pressed against the upper bars J. These springs thus act to prevent the ribbon-spools from unwinding too freely by exerting a constant pressure upon the spools through the upper collars E' and the bar J. The shafts G and G' are firmly supported in upper and lower bars J. The printing-ribbon is divided equally throughout its length in two different or contrasting color portions I and I'. For example, one half of said ribbon throughout its length is colored red and the other half blue. The lower ends of the shafts G and G' have each a gear-wheel Q, by means of which the said shafts are alternately turned in opposite directions to wind and rewind the printing-ribbon from one spool to the other. These rewinding movements are imparted alternately from one shaft to the other through gears P' on shaft P'', one of such gears P' engaging its respective gear Q alternately.

P is a shifting sleeve, to which is fixed one of the gears P' and to which is also fixed a ratchet P'''. The latter gear is operated from the impression-lever T, which carries upon it an arm S, which engages the ratchet P'''. The lever T operates the impression-arm M to press the tickets S' and the printing-ribbon against the type-wheel N, the latter wheel printing the time on each ticket corresponding to the time appearing on the face

of the clock. (See Fig. 3.) The impression-arm M is actuated from the lever T through a projection C', which extends from the shaft M', upon which said impression-arm M is mounted. A spring M'' is connected to this arm and to a stationary part of the framework, so that the tension of the spring M'' tends normally to throw the impression-lever M inwardly toward the type-wheel. Pivoted to the lever T is a trip-lever T', which has a shoulder T'' engaging the trip projection C' when the lever T is lowered and releasing said trip projection C' and permitting the impression arm or lever M to make contact with the tickets or cards of the workmen in order to produce the desired time impression thereon.

O designates the several parts of the shifting device by means of which the direction of the travel of the printing-ribbon is reversed at the limit of each feed of the ribbon. One of these elements consists of a lever which is fulcrumed at O' and has its lower end projected between the gear-wheels P' and P''. The other one of said levers is fulcrumed at O'', and the upper ends of both of said levers are connected by a cross-link, the whole constituting a shifting frame, the upper ends of which lie in proximity to the outer face of the printing-ribbon. Upon the printing-ribbon there are two suitable projections U (one only of which appears) and which extend out sufficiently from the face of the ribbon to engage alternately the upper ends of the levers O, and when engaging said levers from opposite sides the shaft P'' is thrown in opposite directions by the lower end of one of said levers engaging either the wheel P' or the wheel P''. The result is that alternate driving connections are made between the shaft P'' and the gear-wheels P' on the upright shafts G and G'. The wheel P'', through which the shaft P'' is driven, is always in engagement with the driving-lever S.

B' is the card holder or receiver, into which each workman deposits his card and takes the necessary impression upon entering and leaving each day.

K is an arm projecting upwardly from the rock-shaft B and carrying on its upper end the pointer which points to the different portions of the sight-indicator K'', which is stationary. This sight-indicator is divided into two contrasting colors L and L', corresponding to the two colors I and I' of the printing-ribbon. When the rock-shaft B is operated from the crank A to shift the printing-ribbon to present the desired color in line with the printing-wheel, the arm K, with the pointer K', is likewise shifted to indicate the color upon the indicator K''. In the present instance the upper half of the indicator K'' is red to correspond with the lower half I' of the

inking-ribbon, which is shown in Fig. 1 to be in a position to print that color upon a workman's time-card.

The card-holder B' is movable along its supporting-shafts B'' to positions for the incoming and outgoing workmen, as shown on the indicator B³, said indicator being pointed to indicate "In" and "Out" by a pointer B⁴. This shifting of the card holder or receiver is obtained through the shifting-lever B⁵, which has a connection B⁶ with the card-receiver.

While we have described certain parts of the well-known features of a workman's time-clock, we do not desire to claim such portions, for the reason that they comprise no part of our invention, our invention relating solely to the means for shifting a two-colored ribbon to print the time in different colors upon workmen's time-cards and to the means for indicating to the eye the color after each shifting operation of the ribbon. The clock mechanism has been purposely omitted; but it will be understood that the type-wheel N, from which the time is printed, is rotated from a clock. This is done through a shaft W, which is operated from the clock mechanism and imparts movement to the time-printing wheel N through gears X. (See Fig. 3.)

Having described our invention, we claim—

1. A printing-ribbon shifter, comprising upright shafts, ribbon-spools carried upon sleeves mounted upon the upper ends of said upright shafts, a rock-shaft, two arms extending from and in the plane of said rock-shaft and engaging the upper ends of said sleeves, a crank through which the rock-shaft is given movement, an indicator-arm extending from the rock-shaft, and an indicator denoting the positions of the printing-ribbon when the rock-shaft is actuated to elevate or lower said ribbon.

2. A printing-ribbon shifter, comprising two upright shafts, sleeves mounted upon the upper ends of said shafts, ribbon-spools fixed to said sleeves, an inking-ribbon supported on said spools, coil-springs holding said sleeves in an upper position, a rock-shaft mounted horizontally above said spools, arms projecting from said rock-shaft and engaging the upper ends of the sleeves, an indicator-arm extended upwardly from said rock-shaft, an indicator bearing the colors of the ribbon, and a crank for operating the rock-shaft to simultaneously shift the inking-ribbon and the indicator-arm to operative positions.

In testimony whereof we affix our signatures in presence of two witnesses.

CLARA KYSER.
SCOTT MCGOWAN.

Witnesses:

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GUS. L. BARRETT.