J. F. DIEPENBROCK.

SYSTEM OF SHOP CONTROL.

APPLICATION FILED MAY 6, 1918.

1,340,216.

Patented May 18, 1920.

2 SHEETS—SHEET 1.

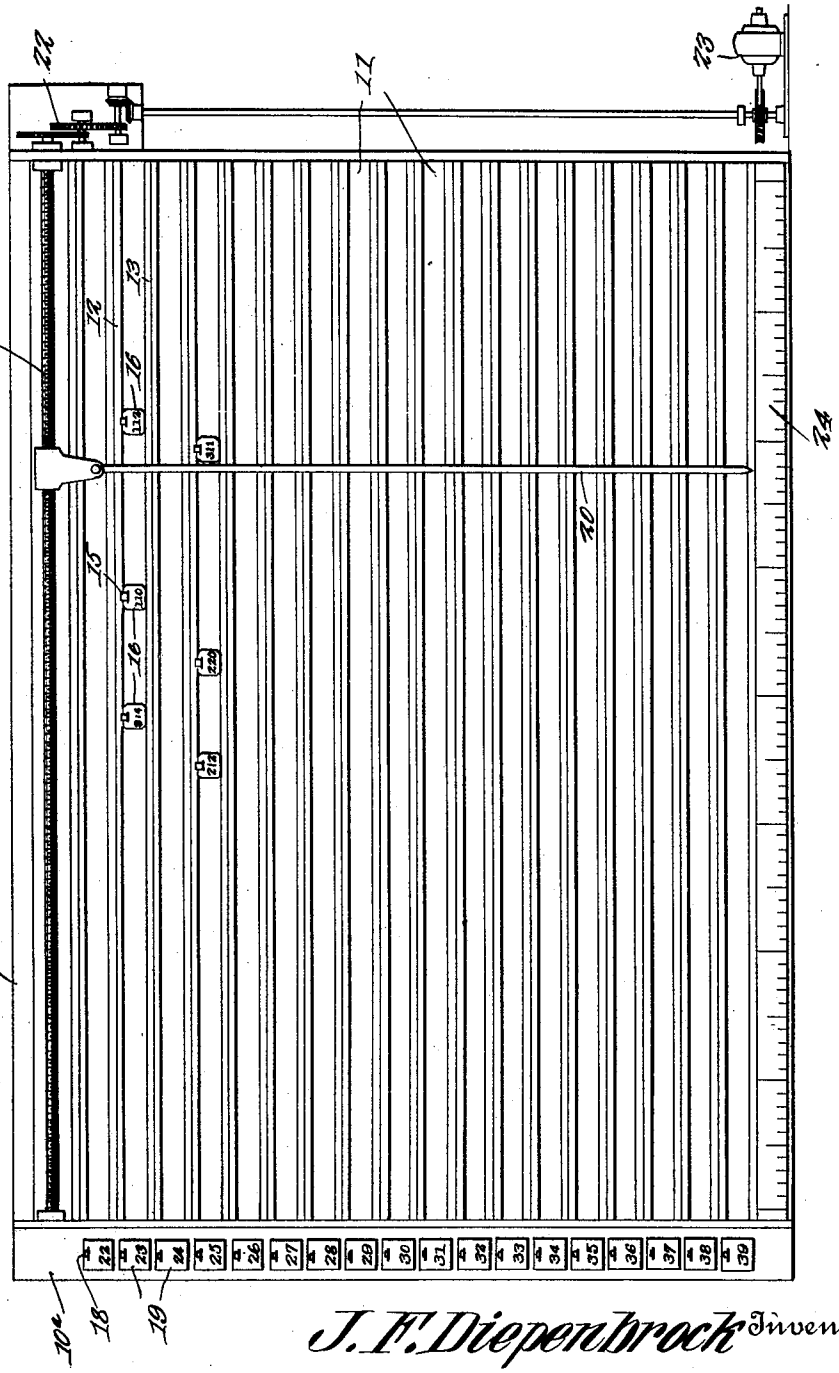


Fig. 1.

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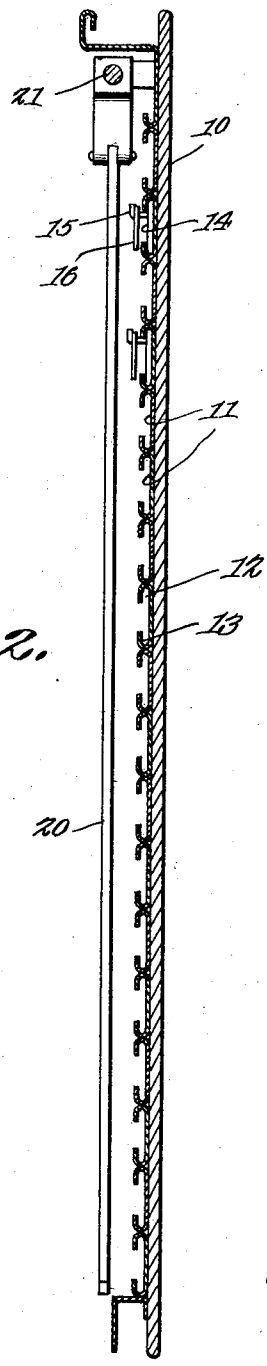


Fig. 2.

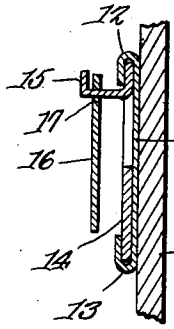


Fig. 3.

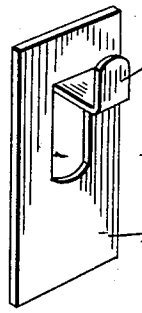


Fig. 4.

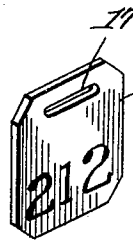


Fig. 5.

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UNITED STATES PATENT OFFICE.

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SYSTEM OF SHOP CONTROL.

1,340,216. Specification of Letters Patent. Patented May 18, 1920.

Application filed May 6, 1918. Serial No. 232,970.

To all whom it may concern:

Be it known that I, JOSEPH F. DIEPENBROCK, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Systems of Shop Control, of which the following is a specification.

The purpose of this invention is, in connection with shop management and planning, to visually post and exhibit the sequence of machine and other operations, in their relative succession, as well as to the time scheduled for their completion, and in addition to this to automatically and continually record the number of time units elapsed since the commencement of each and every operation.

The object stated is attained by a combination of a control board and a timing device operated by a synchronized clock or other constant-speed device, as will be described in detail hereinafter.

In order that the invention may be better understood, reference is had to the accompanying drawings forming a part of this specification, and while the preferred embodiment of the invention has been illustrated, it will be apparent that various changes and modifications may be made without a departure from the spirit and scope of the invention as claimed hereinafter.

In the drawings,

Figure 1 is an elevation of the apparatus;

Fig. 2 is a vertical section thereof;

Fig. 3 is a sectional detail of one of the work-identification tokens;

Fig. 4 is a perspective view of a supporting clip, and

Fig. 5 is a perspective view of the token.

Referring specifically to the drawing 10 denotes a control board consisting of a frame to which is fastened a series of parallel horizontal strips 11 of sheet metal having their longitudinal edge portion bent over to form top and bottom channels 12 and 13 respectively for the purpose of movably supporting a number of clips 14. These clips are also made of sheet metal and have a punched-out hook 15 on which is adapted to be hung a job identification token in the form of a metal tag 16, the latter having a slot 17 so that it may be slipped over the hook. Each tag bears a number which is the identification number of the piece of work in the respective shop department, and follows the work through all operations on the piece in this department.

To one side of the control board 10, and integral with the same, is a panel 10^a which has punched-out and opposite each strip 11, hooks 18 for the purpose of supporting additional numbered tags 19 representing identification legends of the machine or bench tool on which a certain operation is to be performed.

The automatic time device consists of a pointer rod 20 suspended from and moved by a screw spindle 21 positioned at the top of the control board 10 and extending horizontally from one end to the other. This feed screw is slowly driven through a suitable reducing gear 22 by a constant speed device 23, which latter may be either a motor or a clock.

The movable pointer 20 indicates on a time scale 24 the number of hours or other time units elapsed since the beginning of the operation, this scale being located at the bottom of the control board.

As the pointer 20 moves from the right to the left end of the control board 10, it will be seen that the horizontal distance of the tags 16, hanging on the clips 14 mounted in the channels 12 and 13 of the strips 11, to the left of the pointer, represents the number of scheduled hours or other time units still available to the completion of a certain job, while the horizontal distance of the tags to the right of the pointer represents the lapse of time consumed beyond the predetermined set amount planned for the completion of the operation.

If the job is on time, the report of its completion will reach the officer in charge of the apparatus at the moment the pointer 20 is above the number tag 16 representing the work to be started on the next job laid out for this same machine or bench tool. The job identification tags 16 are removed from the hooks 15 on the clips 14 when the operation is finished, leaving the clip in position to gage the progress in the completion of the next job.

The relative position of the pointer 20 between the tags 16 serves also as an anticipating check to the supervisor or foreman as to the progress of a certain operation in this manner. As the tags are so placed on the board that the horizontal distances between the same represent the number of

hours or other time units planned to be taken by the operation on the piece of work, it is apparent that, if the pointer shows midway between the two tags, the job, if run on schedule, must be half completed, and it is therefore very easy for the foreman and also the man on the machine to see from the actual work accomplished whether this is the case. If less than half the work is accomplished, help from the foreman in an advisory capacity is possible beforehand, and much more so as the control board itself will relieve these supervising men of all the burden of following up and chasing a job through their respective departments.

Another feature of the apparatus is the visual exhibition of the effort of each man operating a machine, and affords opportunity for competitive team work on the score basis, by setting out and paying prizes or premiums for the best performance.

The drawing shows one embodiment of the invention and it will be understood that the structure may be modified in various ways without a departure from the spirit and scope of the invention as claimed hereinafter.

I claim:

1. An apparatus for the control of shop operations, comprising job identification tokens, longitudinal supports on which the tokens are positioned, tool indentification legends associated with the supports, a pointer movable along the supports, and means for moving the pointer at a constant and uniform speed.

2. An apparatus for the control of shop operations, comprising job identification tokens, longitudinal supports on which the tokens are positioned, tool identification legends associated with the supports, a pointer movable along the supports, means for moving the pointer at a constant and uniform speed, and a time scale on which the pointer indicates.

3. An apparatus for the control of shop operations, comprising job identification tokens, longitudinal supports on which the tokens are positioned, a pointer movable along the supports, and means for moving the pointer at a constant and uniform speed.

4. An apparatus for the control of shop operations, comprising job identification tokens, longitudinal supports on which the tokens are positioned, means for moving the pointer at a constant and uniform speed, and a time scale on which the pointer indicates.

In testimony whereof I affix my signature.

JOSEPH F. DIEPENBROCK.