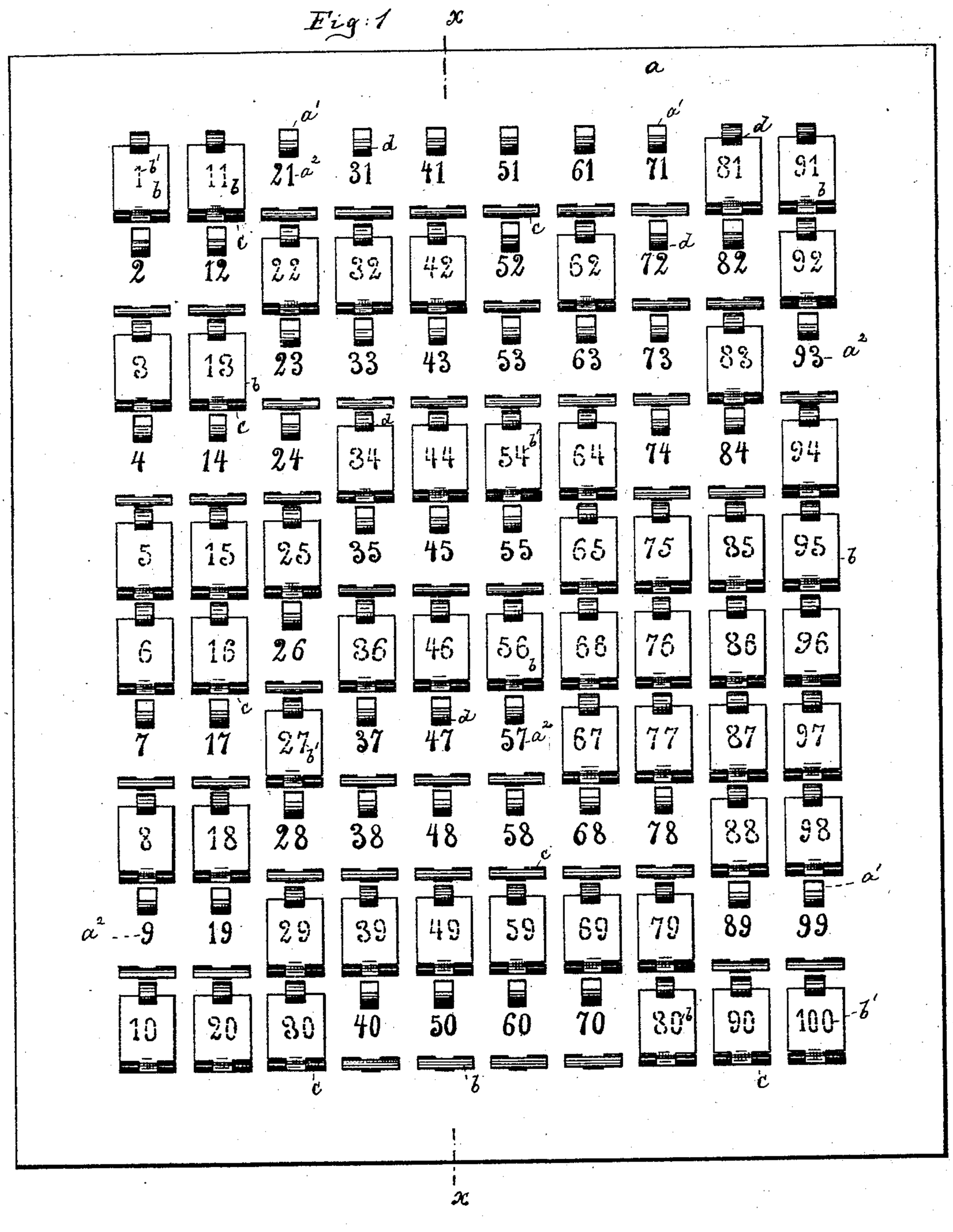
(No Model.) 7 Sheets—Sheet 1.

R. BÜRK.

WORKMAN'S TIME RECORDER.

No. 433,512. Patented Aug. 5, 1890.

Fig: 1



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Inventor:
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(No Model.) 7 Sheets—Sheet 2.

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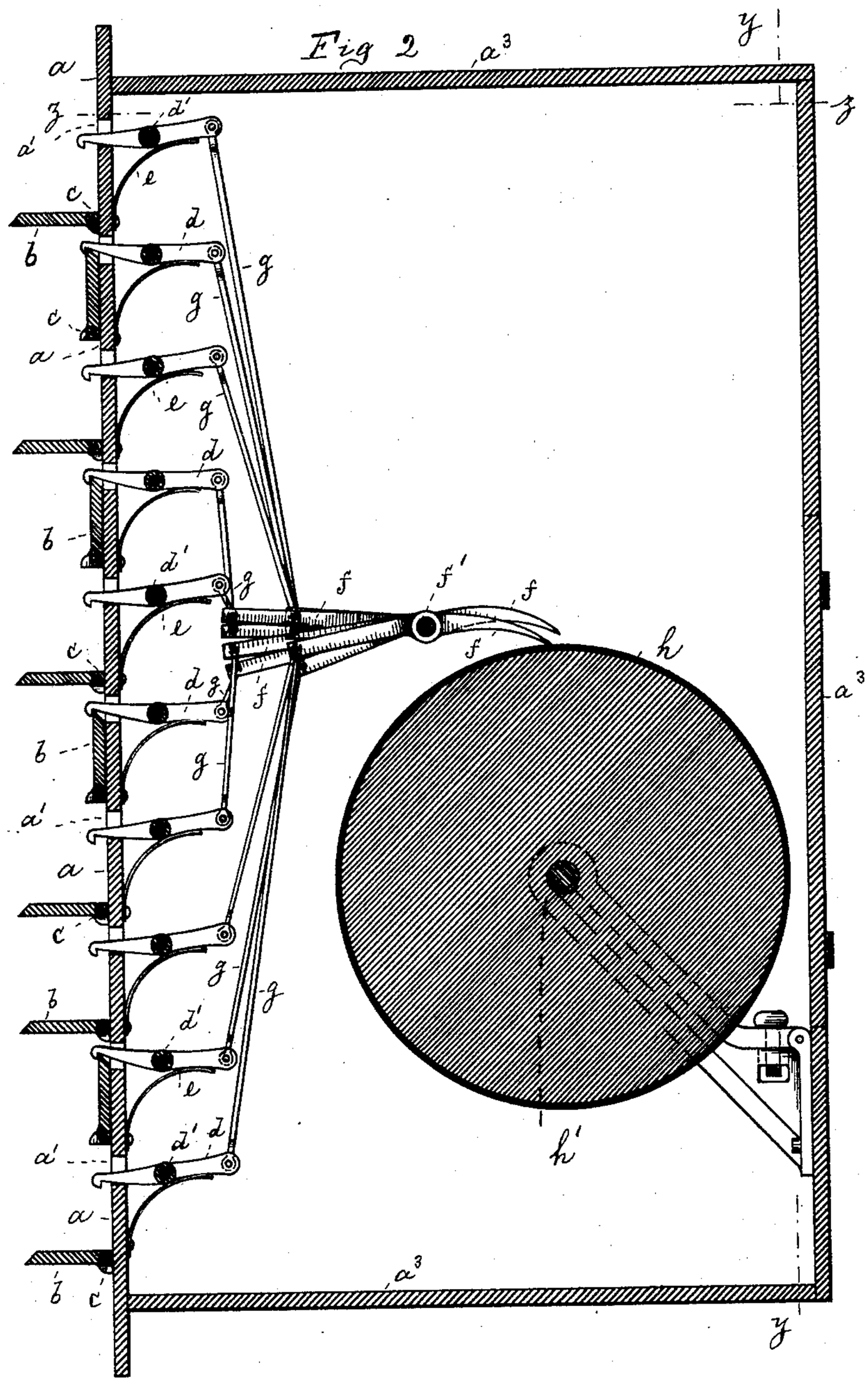
WORKMAN'S TIME RECORDER.

No. 433,512. Patented Aug. 5, 1890.

Fig 2



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7 Sheets—Sheet 3.

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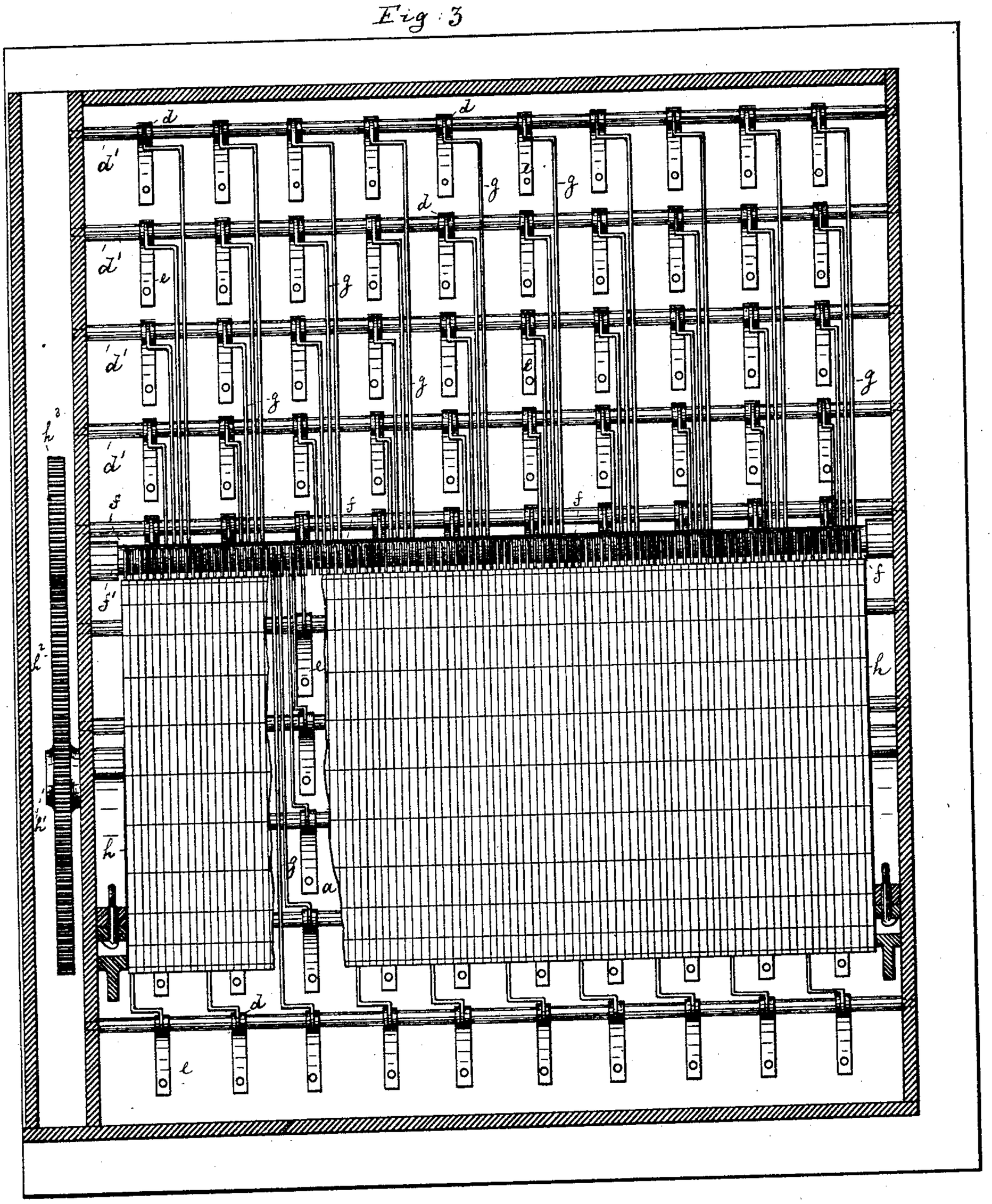
Fig. 3



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(No Model.) 7 Sheets—Sheet 4.

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WORKMAN'S TIME RECORDER.

No. 433,512. Patented Aug. 5, 1890.

Fig. 4

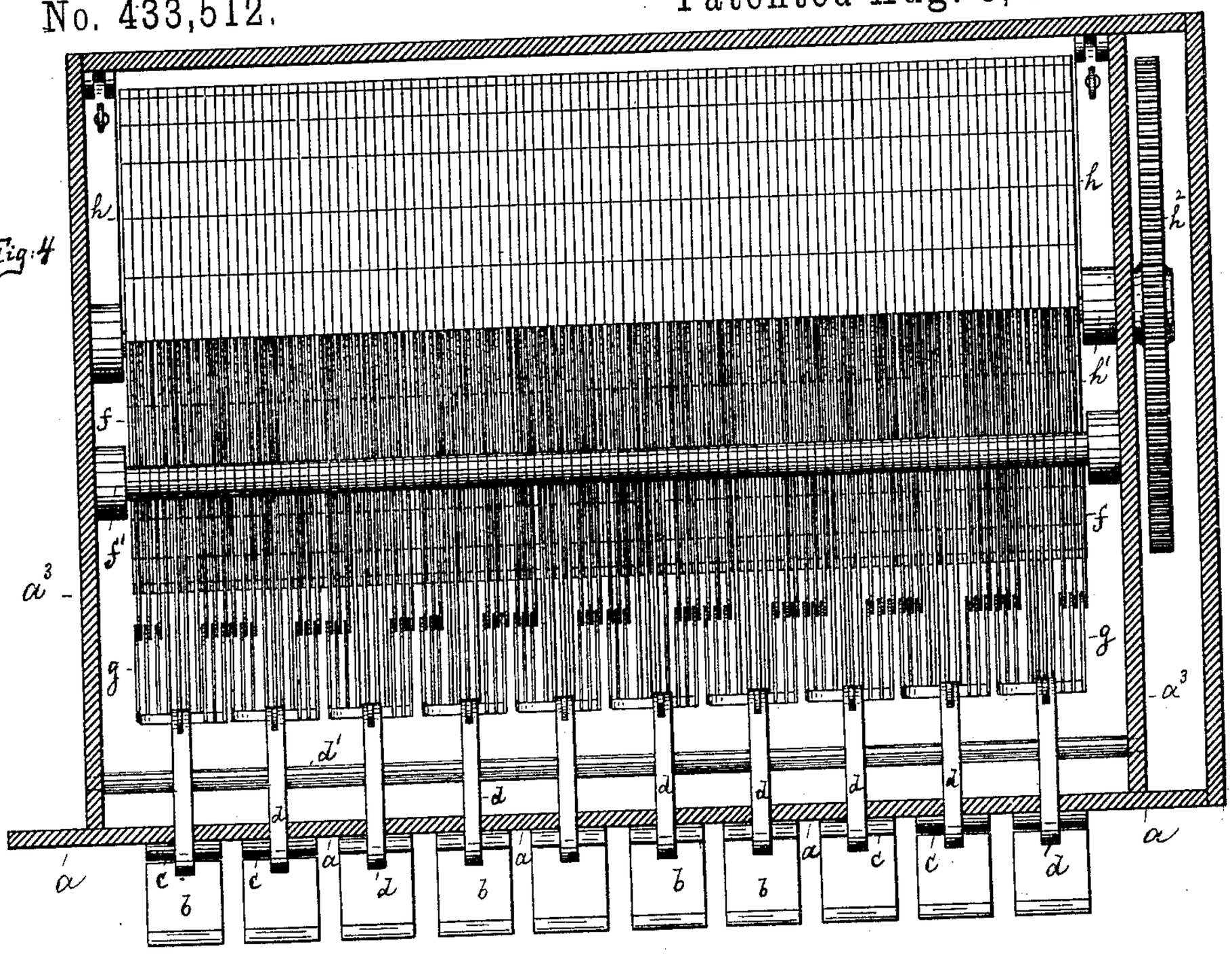
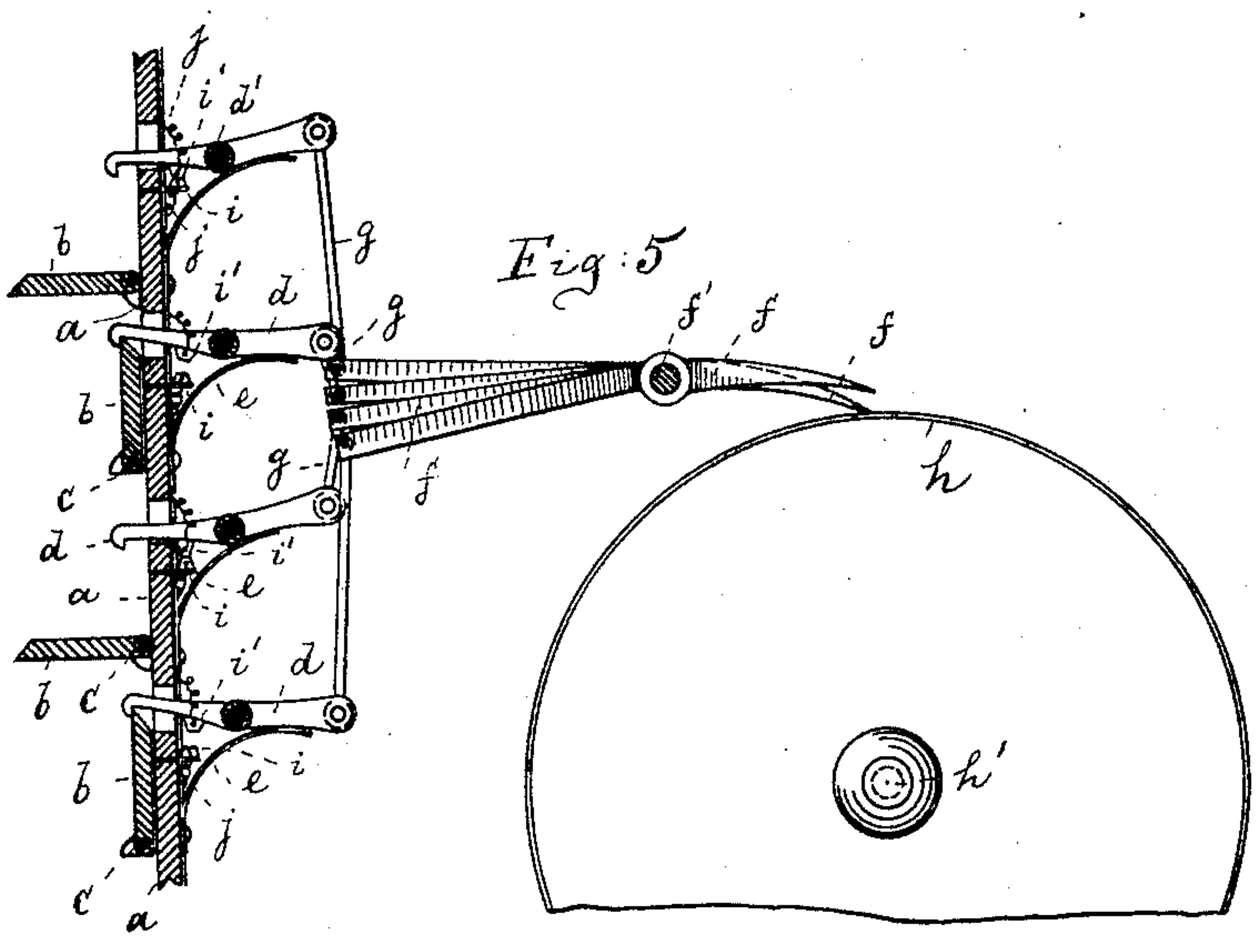


Fig. 5



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(No Model.) 7 Sheets—Sheet 5.

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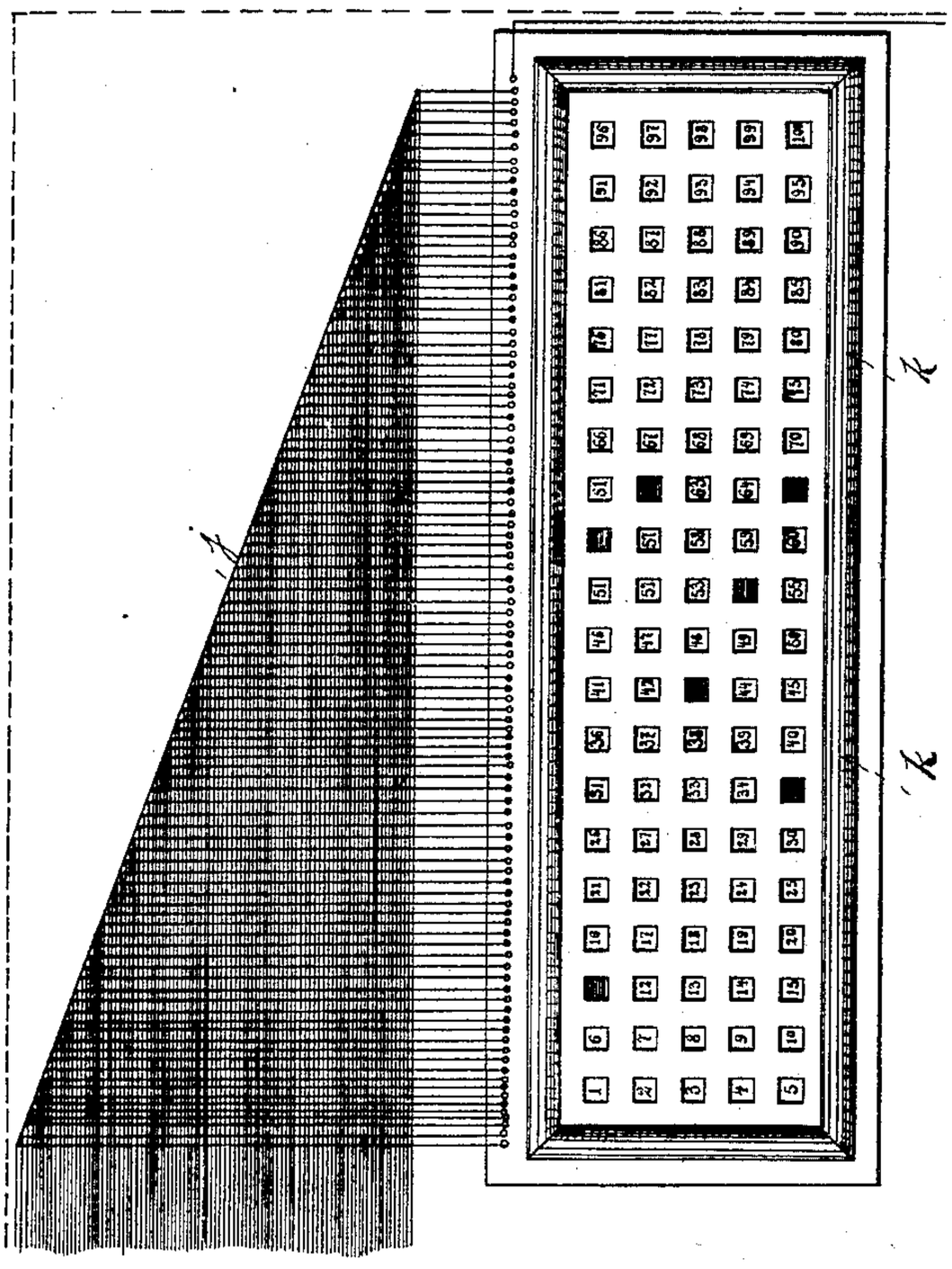

Fig 6

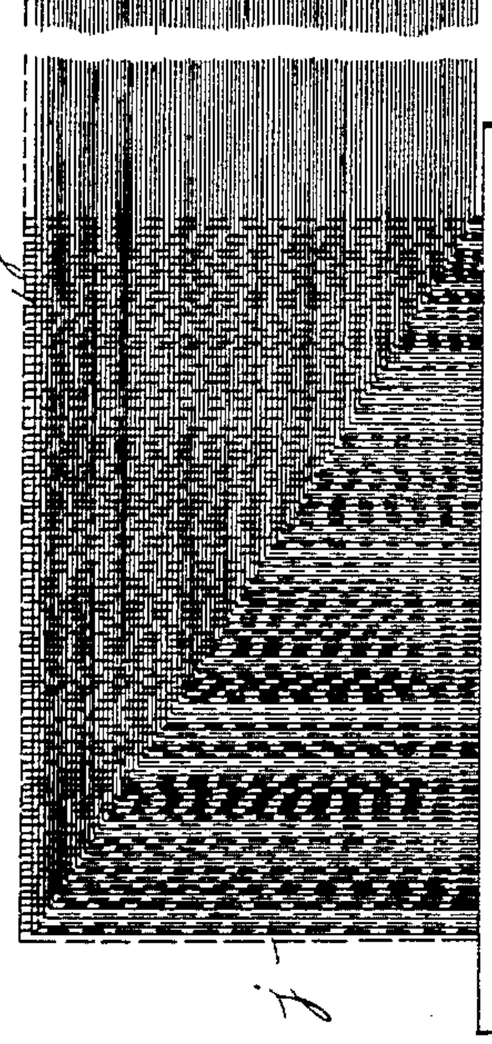

Fig 7

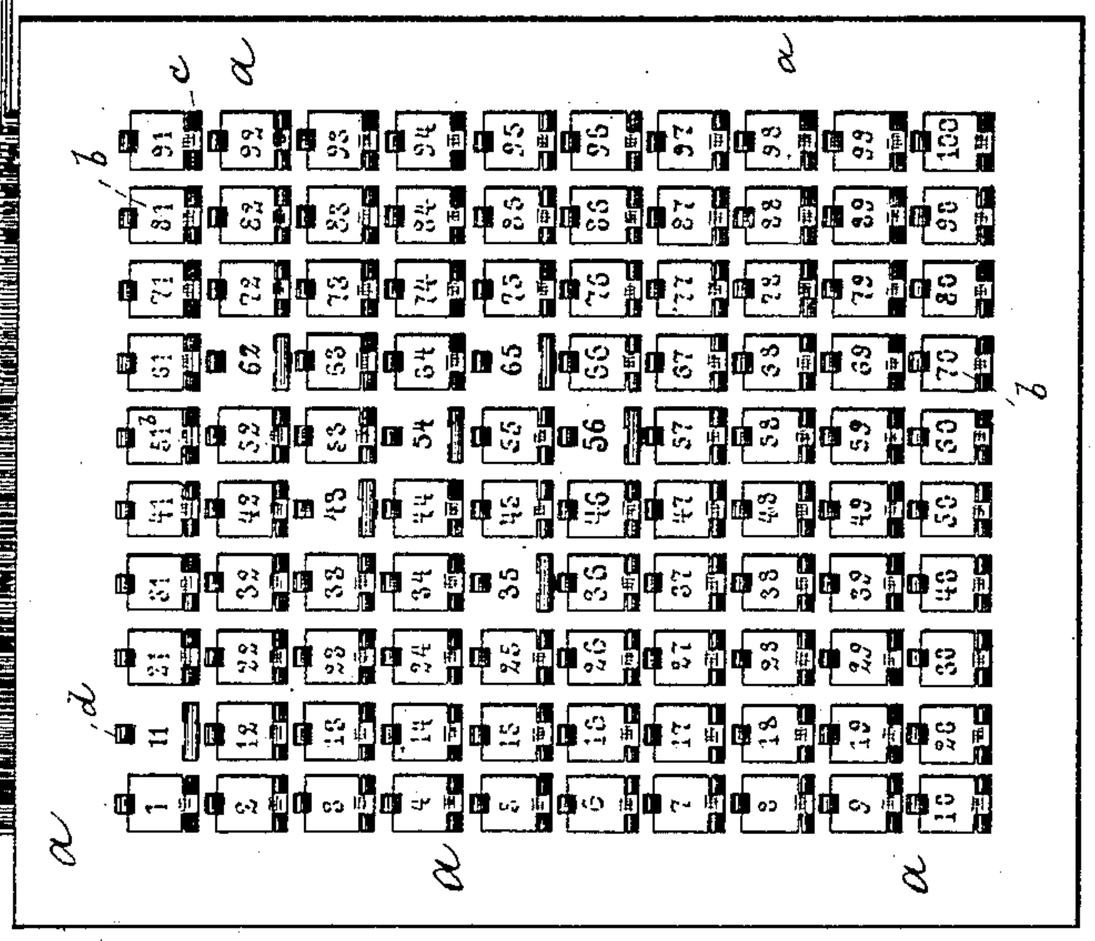

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Fig 7

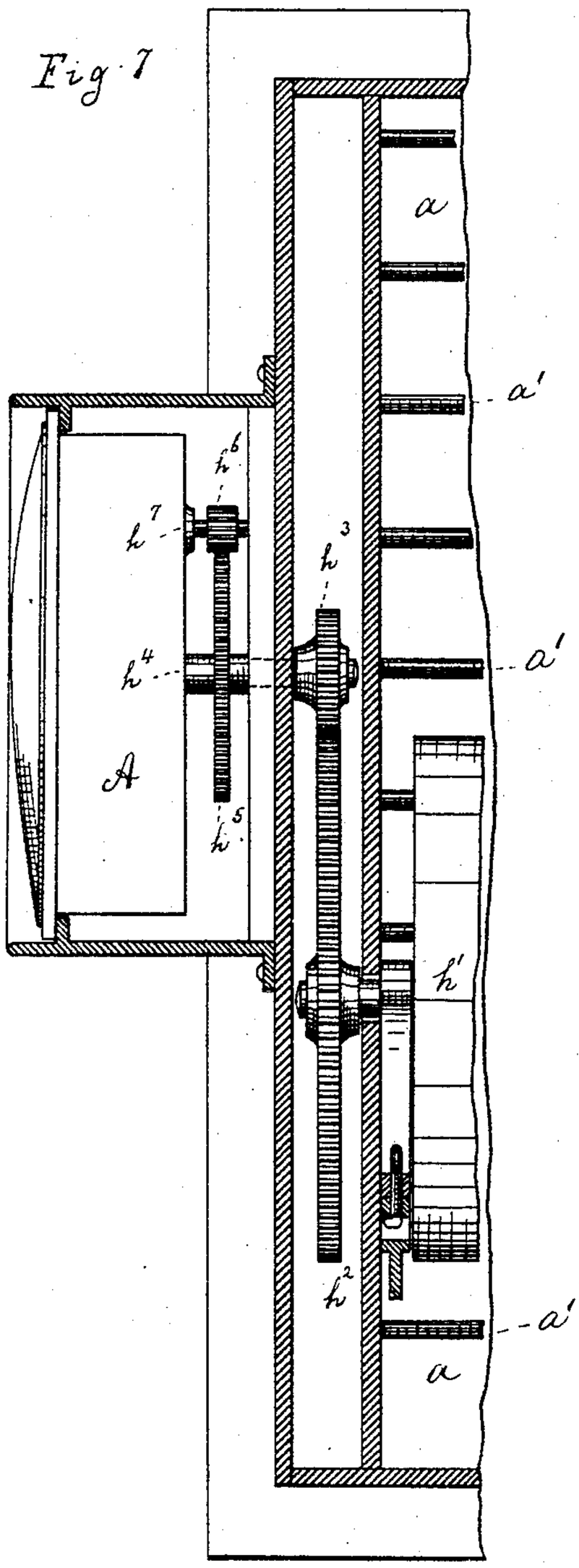
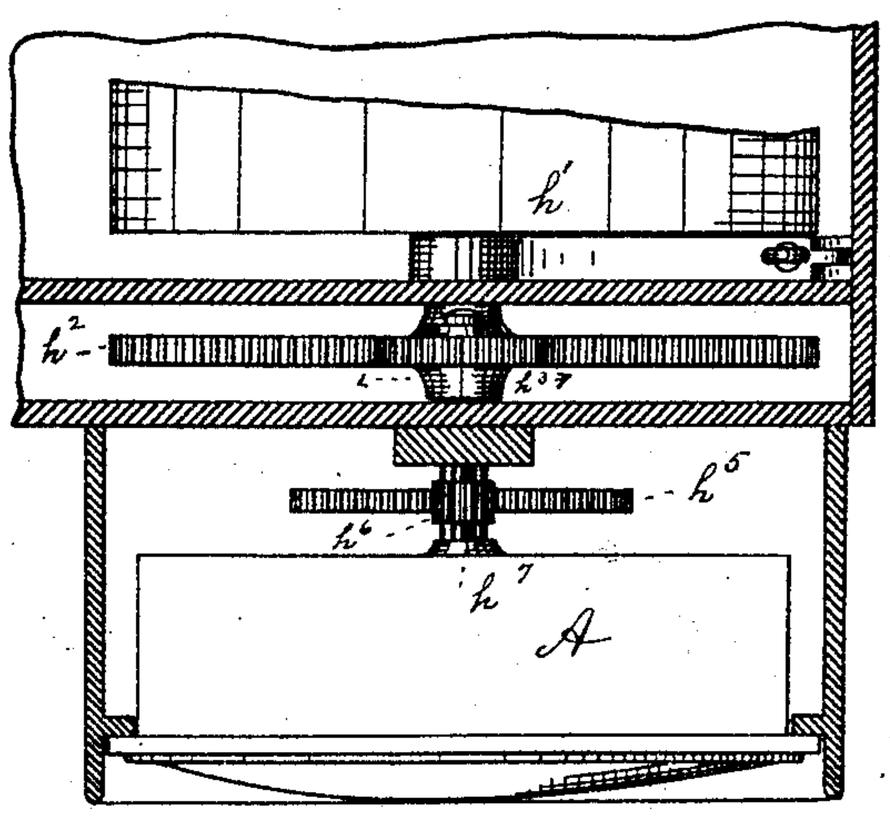


Fig 8



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No. 433,512. Patented Aug. 5, 1890.

Fig 9

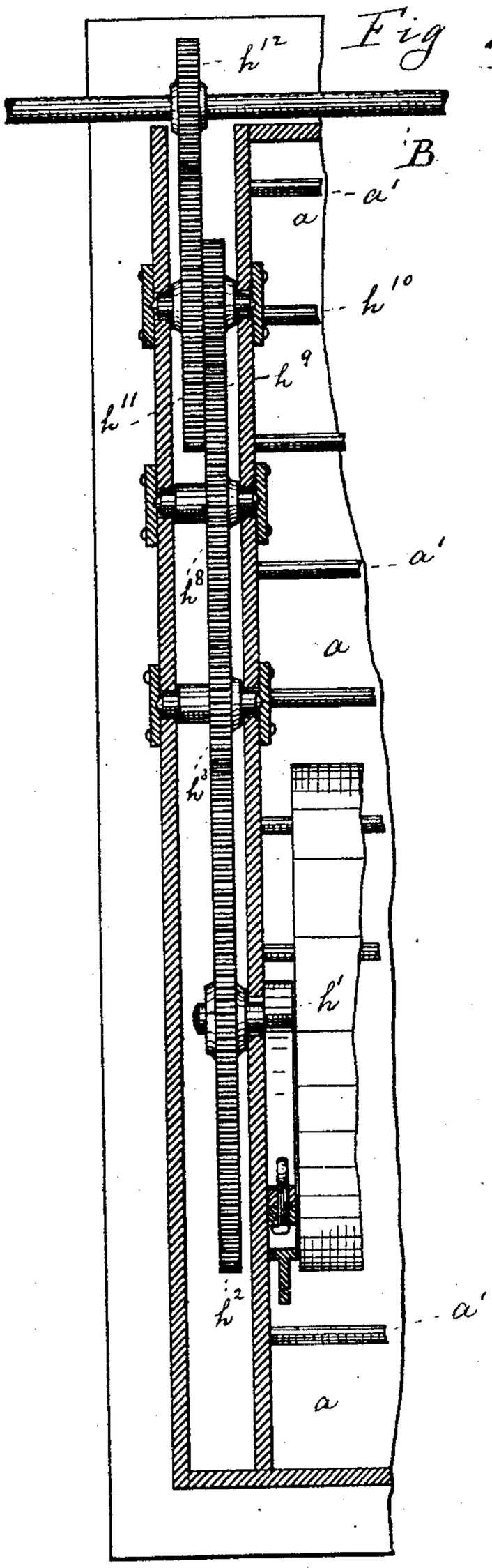
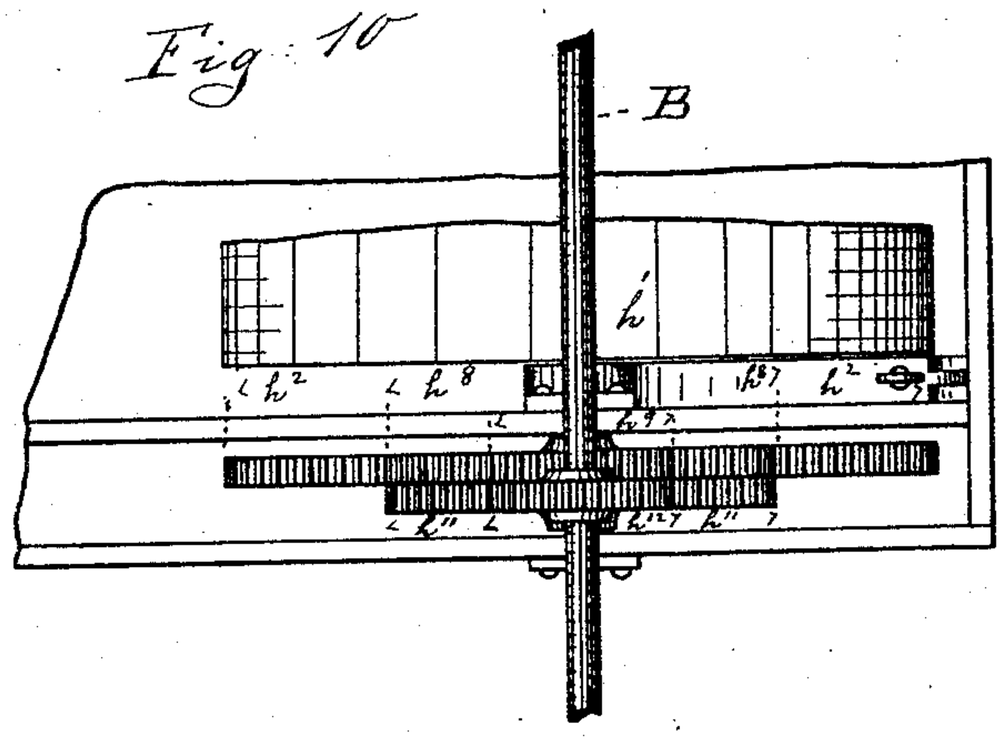


Fig 10



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UNITED STATES PATENT OFFICE.

RICHARD BÜRK, OF SCHWENNINGEN, WÜRTEMBERG, GERMANY.

WORKMAN'S TIME-RECORDER.

SPECIFICATION forming part of Letters Patent No. 433,512, dated August 5, 1890.

Application filed July 30, 1889. Serial No. 319,142. (No model.)

To all whom it may concern:

Be it known that I, RICHARD BÜRK, of Schwenningen, Würtemberg, Germany, have invented an Improved Time-Controlling Apparatus, of which the following is a specification.

This invention relates to an apparatus for recording the time the employés of a factory or other establishment are present.

The invention consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of my improved time-controlling apparatus. Fig. 2 is a vertical section on line *x x*, Fig. 1; Fig. 3, a vertical section on line *y y*, Fig. 2; Fig. 4, a horizontal section on line *z z*, Fig. 2; Fig. 5, a section similar to Fig. 2 of a smaller apparatus and showing the several hooks connected to an electric circuit, and Fig. 6 a face view of the apparatus shown in Fig. 5. Fig. 7 is a side view of one end of the drum h', showing the driving mechanism; Fig. 8, a top view thereof. Figs. 9 and 10 are modifications of Figs. 7 and 8.

The letter *a* represents a face-plate provided with a suitable number of slots a', arranged in rows and with a numeral a^2 beneath each slot. These numerals are shown in full lines in Fig. 1, and each of them is adopted by one of the employés. Below each numeral a^2 there is hinged a plate *b* by hinge *c*. When these plates are thrown up, they conceal the numerals a^2 and display corresponding numerals b', which, however, are made in a different color. These numerals are shown by broken lines in Fig. 1. One set of numerals when displayed indicates the presence and the other the absence of the employés.

The face-plate *a* is fastened to a suitable casing a^3, across which are hung a number of shafts d'. Upon these shafts turn the hooks *d*, projecting out of slots a' and free to engage the plates *b*. The hooks *d* are normally thrown into engagement with said plates by springs *e*. The rear end of each hook *d* is by rod *g* connected to a lever or marker *f*, turning on shaft f', and the free end of which is adapted to mark a record-sheet *h*, wound upon a drum or roller h'. This drum may be revolved by suitable gearing, driven either by clock-work or from a power-shaft. In Figs. 7 and 8 the drum h' is shown to carry gear-wheel h^2, meshing into wheel h^3. The shaft h^4 of wheel h^3 carries a second gear-wheel h^5, meshing into pinion h^6, the arbor h^7 of which enters a case A and is revolved by the clock-work therein contained in the ordinary manner.

In Figs. 9 and 10 the drum h' is revolved from a power-shaft B by an intermediate train of gearing. The gear-wheel h^2 on drum h' meshes into pinion h^3, as before. This pinion meshes into wheel h^8, that receives motion from wheel h^9, fast on shaft h^{10}. This shaft carries wheel h^{11}, that intergears with the wheel h^{12}, fast on work-shaft B.

The record-sheet *h* is divided by a series of lines into rectangular spaces. Between each pair of vertical lines one of the levers *f* marks the record-sheet, while the horizontal lines divide the record-sheet into spaces corresponding to days, hours, fractions of hours, or other time.

The operation of the apparatus will be readily understood. When an employé enters, he draws his plate *b* down. This causes the rear end of hook *d* to rise, and this in turn will cause contact between the marker *f* and the record-sheet *h*. As the latter revolves, a line will be drawn upon it corresponding in length to the length of time the employé is present. When the employé leaves, he throws his plate *b* up to cause a disengagement between the marker and the record-sheet.

In Figs. 5 and 6 the face-plate *a* is provided with a metallic plate *i*, and the hook *d* is provided with a corresponding metallic plate i'. The metallic plates $i\,i'$ constitute electric contacts and are connected to the wires *j* of an electric circuit. The wire *j* may lead to an ordinary indicator *k*, such as used in hotels. This indicator is placed in the director's room. When the hooks *d* are swung down, the circuit will be closed and the indicator *k* will drop its number to automatically indicate the presence of the employés.

The advantages connected with this ap-

paratus are its great simplicity and its certainty of operation. Moreover, it cannot be tampered with, and it indicates at a glance whether an employé is present or absent.

What I claim is—

1. The combination of face-plate *a*, with a series of plates *b* hinged thereto, and with hooks *d* engaging said plates, and with markers *f* connected to said hooks, and with a movable record-sheet acted upon by the markers, substantially as specified.

2. The combination of slotted face-plate *a*, with a series of plates *b* hinged thereto, spring-hooks *d*, projecting through said face-plate, markers *f*, connected to the spring-hooks, and with a movable record-sheet acted upon by the markers, substantially as specified.

3. The combination of face-plate *a*, having contact *i*, with plates *b* hinged to plate *a*, and with hooks *d* engaging plates *b* and having contact *i'*, and with wires *j* of an electric circuit connected to contacts *i i'*, and with markers *f* connected to hooks *d*, and with a movable record-sheet acted upon by the markers, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD BÜRK.

Witnesses:
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GICHT. JAUCK.