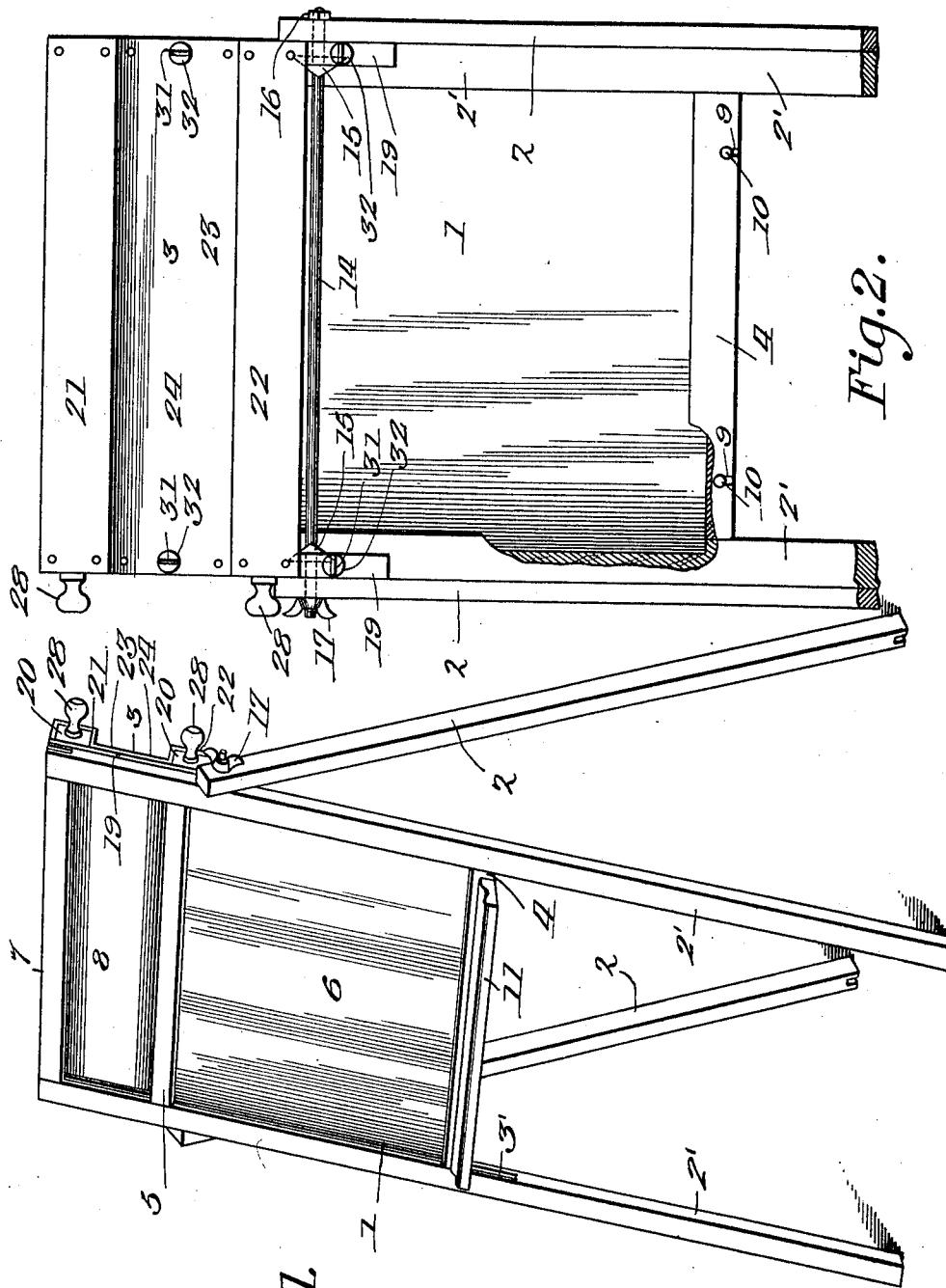




WITNESSES
Philip E. Barnes
A. Wright

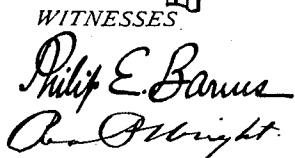
Fig. 1.

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APPLICATION FILED JUNE 2, 1911.

Patented May 21, 1912.

3 SHEETS--SHEET 2.



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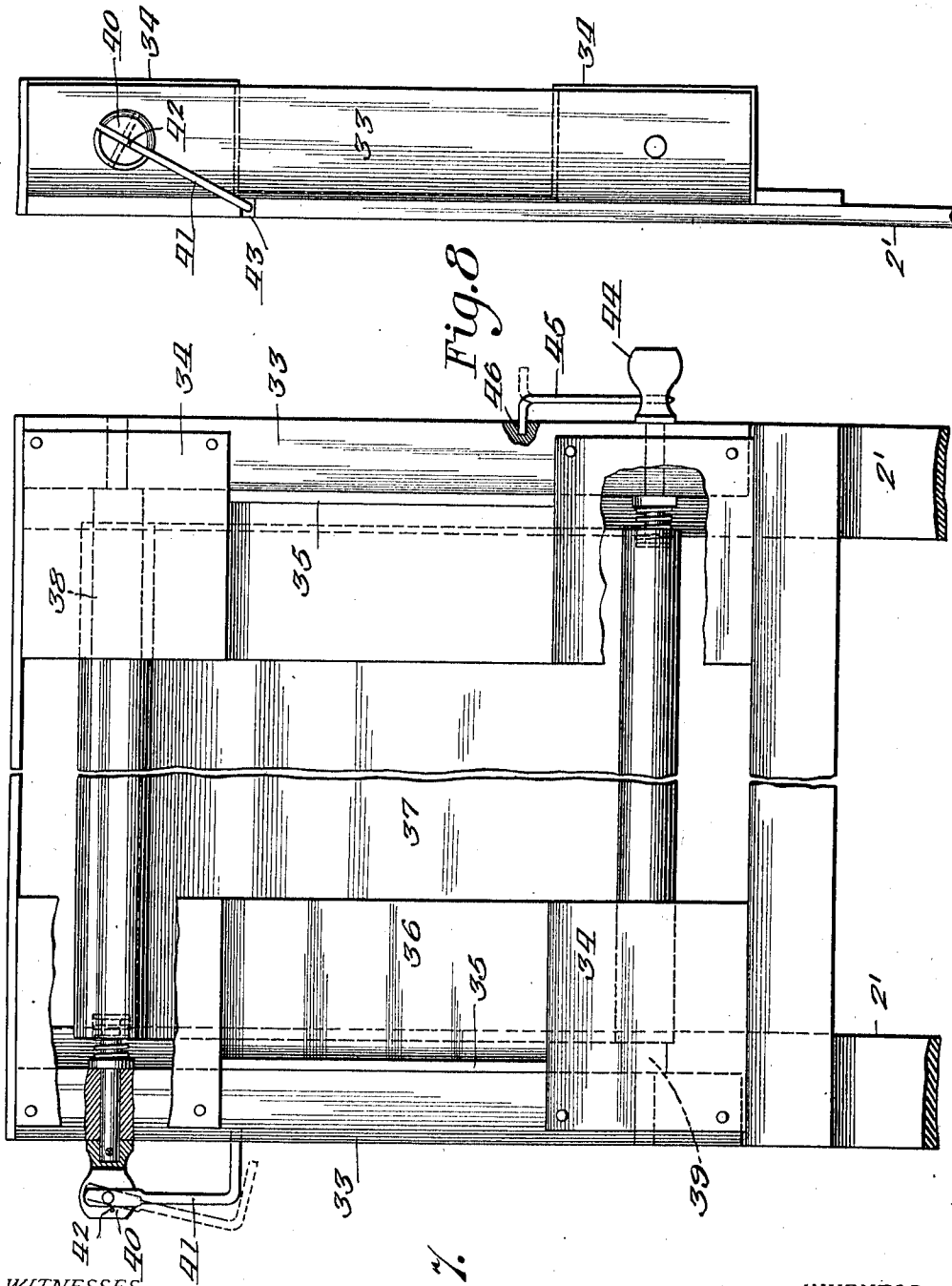
E. L. KRAUS.
BLACKBOARD.

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3 SHEETS-SHEET 3.

1,026,809.



WITNESSES

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Fig. 1.

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UNITED STATES PATENT OFFICE.

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BLACKBOARD.

1,026,809.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed June 2, 1911. Serial No. 630,897.

To all whom it may concern:

Be it known that I, EDWARD L. KRAUS, a citizen of the United States, residing at Slatington, county of Lehigh, State of Pennsylvania, have invented certain new and useful Improvements in Blackboards, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to certain new and useful improvements in black-boards, the object being to improve the general construction and to provide a board which can be packed for shipping in such a manner that all danger of any of the parts becoming broken is prevented.

15 Another object of the invention is to provide novel means for connecting the legs to the frame of the board whereby each leg will have an independent adjustment in order to allow the legs to adjust themselves to any unevenness of the floor.

20 A further object of the invention is to provide a board with a detachable chart case which is exceedingly simple and cheap in construction and one which can be readily attached or detached, the attaching means being so positioned in respect to the housings for the chart rolls that all danger of the same being injured in shipping is prevented.

25 A still further object of the invention is to provide novel means for rotating the chart rolls, said means being capable of being used for locking the rolls when the blackboard is being shipped.

30 Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

35 In the drawings—Figure 1 is a perspective view of my improved blackboard; Fig. 2 is a rear elevation partly broken away; Fig. 3 is a vertical section through the board and chart case; Fig. 4 is a detail rear elevation, the housing being shown in section and one of the rolls partly broken away to show the manner of mounting the spring thereon; Fig. 5 is a detail view showing the manner of securing the chalk tray in a set-up position; Fig. 6 is a detail view showing the chalk tray in position for shipping; Fig. 7

is a rear elevation partly broken away of a modification; and Fig 8 is a side elevation of the same.

Like numerals of reference refer to like parts in the several figures of the drawings.

In the drawings, 1 indicates the black-board proper, 2 the supporting legs and 3 a detachable chart case. The black-board proper comprises a pair of side bars 2' having grooved inner edges 3' in which the tenons of cross-bars 4 and 5 are secured, forming a substantially rectangular frame for the writing surface 6. The extreme ends of the bars 2' are connected together by a cross-bar 7 which is spaced from the cross-bar 5 as clearly shown forming an opening for the chart 8. The lower cross-bar 4 is provided with transverse slots 9 in its lower edge into which are adapted to fit headed pins 10 carried by a chalk tray 11 and it will be seen that when said chalk tray is in the position shown in Fig. 5, it will be firmly held in position by frictional contact. The walls of the slots 9 are enlarged as shown at 12 having a diameter slightly larger than the diameter of the heads of the pins 10 and into which the heads are adapted to be forced when the chalk tray 11 is placed in the position shown in Fig. 6 for shipping, the tray being substantially the same thickness as the side bars 2.

The rear faces of the side bars 2 are transversely grooved as shown at 13 forming bearings for a tie-rod 14 which is secured therein by plates 15, said tie-rod being provided with a head 16 at one end and a wing nut 17 at its other end. Mounted on the respective ends of the tie-rod 14 are legs 2 which are clamped against the side edges of the side bars 2' by the wing nut 17 in such a manner that the legs will be held in their adjusted position in order to support the black-board at any angle desired. It will be seen that by this construction, each leg has an independent movement in order to allow it to adjust itself to any unevenness of the floor.

The chart case 3 comprises a pair of strips 19 carrying blocks 20 forming the end walls of housings 21 and 22 which are formed by a continuous strip of suitable material 23

which is secured over the blocks and to the strips 19 to form the housings and a central backing 24 for the chart 8. The blocks 20 are provided with bearings through which
 5 extend the trunnions 25 and 26 formed on the respective ends of the rollers 27 to which the respective ends of the chart 8 are secured. The trunnions 26 are provided with handle portions 28 by which the rollers are
 10 rotated in order to shift the chart from one roll to the other. In order to prevent the unwinding of the chart from the rolls, I provide a tension device which comprises a coiled spring 29 one end of which is seated
 15 in an annular recess formed in the end of the roll carrying the trunnion 26 and the other end is seated in a cup 30 carried by the block in such a manner that pressure will be applied to the roller in order to prevent the
 20 same from rotating. The chart case 3 is secured in position on the side bars 2' by screw eyes 31 passing through washers 32 in such a manner that the same can be easily attached or detached, said eyes forming an attaching
 25 means through which a suitable supporting cord can be passed in order to suspend the board.

In the modification shown in Figs. 7 and 8, the construction of the chart case is slightly
 30 modified by forming uninterrupted end pieces for the housings and the end pieces 33 are secured against the side bars 2' and an open housing is formed at each end by strips 34 which are secured in position by
 35 central strips 35 so as to form out of the central portion of the strips a backing portion 36 for the chart 37. In this construction, the chart rollers 38 and 39 are formed substantially the same as in the preferred
 40 form, the same tension means being employed for preventing the rolls from unwinding. In this construction, I have shown two forms for holding the rolls when being shipped, the holding means also performing
 45 the function of a crank for operating the rolls. The form shown attached to the roll 38 comprises a knob 40 which is secured to the trunnion of the roll and is provided with a bifurcated end in which is pivotally
 50 mounted a crank arm 41 held in its adjusted position by a spring pin 42 and when used for locking the roll, co-acts with a notch 43 formed in the side bar as clearly shown in Fig. 8. By throwing the arm to the other
 55 side of the knob, the arm is in position to be used as a crank for rotating the roll. The form shown attached to the knob 44 of the roller 39 comprises a screw crank 45 which is mounted in a threaded bore formed in the
 60 knob and the angle end is adapted to be seated in a recess 46 formed in the side pieces 33 of the chart case and in this case, in order to disengage the end of the arm

from the recess, it is necessary to draw the knob outwardly thereby compressing the tension spring which also performs the function of holding the arm within the recess. 65

While I have only described the tension means for one roller, it is, of course, understood that each roller is constructed exactly
 70 alike and is provided with the same tension means for holding the roller against rotation in order to prevent the chart from unwinding. It will also be seen that this tension means performs the function of allowing
 75 the rollers being moved longitudinally in order to disengage the pivoted cranks from the recesses to release the rollers from locked position.

In the drawings, I have shown and described a detachable chalk tray with headed
 80 projections co-acting with recesses in the frame of the black-board, but it is, of course, understood that the frame could be provided with projections and the tray with recesses
 85 for accomplishing the same purpose.

Having described my invention and set forth its merits what I claim and desire to secure by Letters Patent is—

1. A black board comprising a frame having a board proper arranged therein and provided with openings, a chalk tray having
 90 headed projections fitting in the openings formed in the frame of said board, and pivoted legs for supporting said frame. 95

2. A blackboard comprising a frame formed of side bars and cross-bars having transverse slots formed in one of the cross-bars, and a chalk tray having headed pins adapted to fit in said slots when in a set-up
 100 or knock-down position.

3. A blackboard having a chart case, rollers mounted in said case carrying a chart, knobs carried by said rollers and pivoted means carried by said knobs for locking said
 105 rollers against rotation.

4. A blackboard having a chart case, rollers mounted in said case carrying a chart, and pivoted members carried by said rollers for locking the rollers against rotation. 110

5. A black board having a chart case detachably secured thereto, spring pressed rollers mounted in said case, knobs carried by said rollers, pivoted cranks mounted in said knobs, said cranks being capable of being swung into position to lock said rollers. 115

6. A blackboard having a chart case, rollers mounted in said chart case, said case having recesses, and pivoted cranks carried by said rollers adapted to fit within said
 120 recesses for locking said rollers against rotation.

7. A blackboard having a detachable chart case comprising side members carrying spaced end pieces, said end pieces and side members being inclosed by strips to form 125

spaced housings a central supporting portion, and rollers having tension means mounted in said housings carrying a chart, knobs carried by said rollers, and pivoted
5 cranks carried by said knobs.

8. In a blackboard, the combination with a chart case, of rollers having knobs, and pivoted cranks carried by said knobs capable of being moved in position to rotate said

rollers or to lock said rollers against rotation.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD L. KRAUS.

Witnesses:

MINNIE REX,
MABEL MOYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
