No. 669,878. Patented Mar. 12, 1901.

S. FURDEK.

EDUCATIONAL APPLIANCE.

(Application filed June 19, 1900.)

(No Model.) 2 Sheets—Sheet 1.

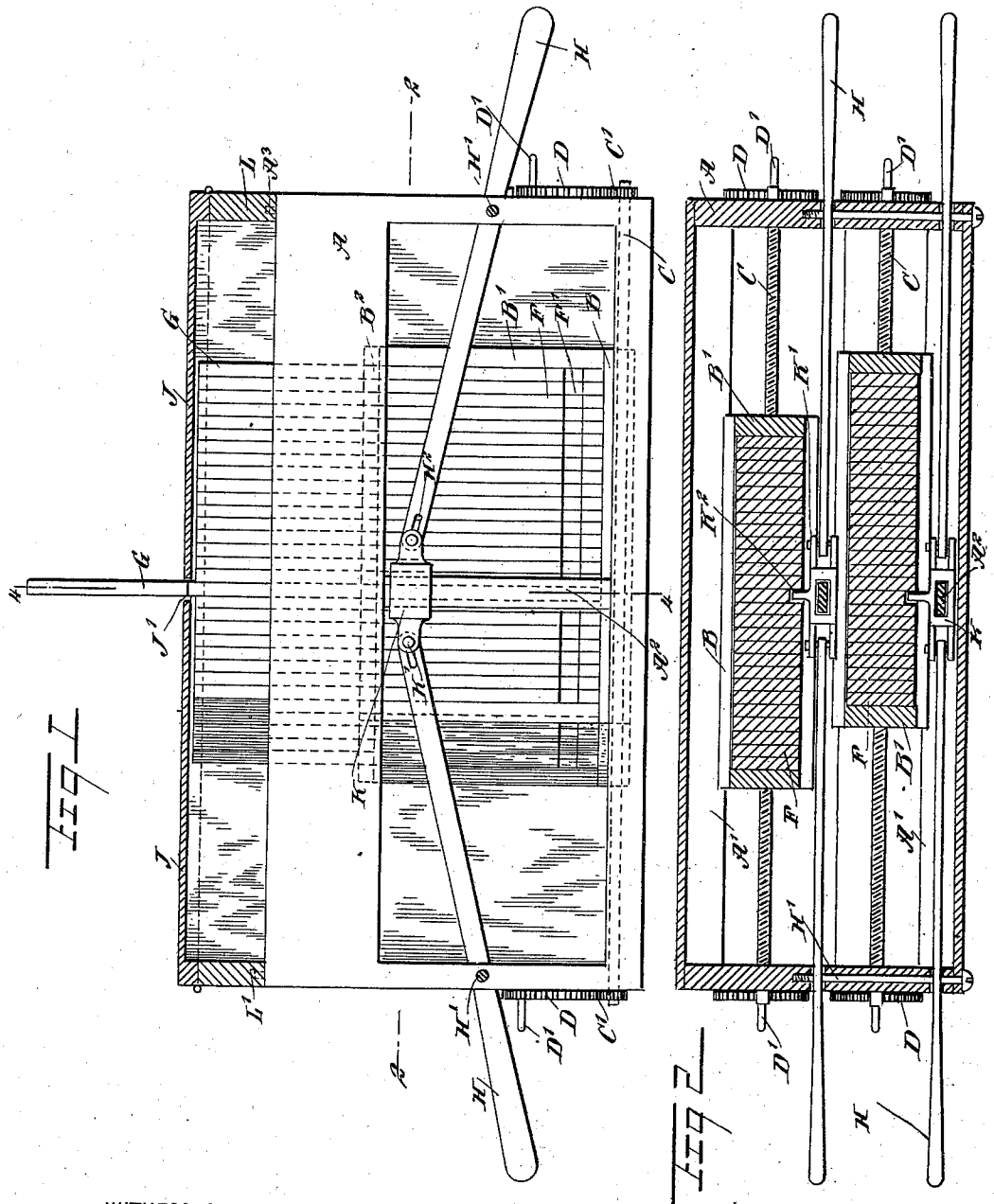


Fig. 1

Fig. 2

WITNESSES:

H. L. Walker

John Lotka

INVENTOR

Stephen Furdek.

BY Munn & Co.

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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Fig 3

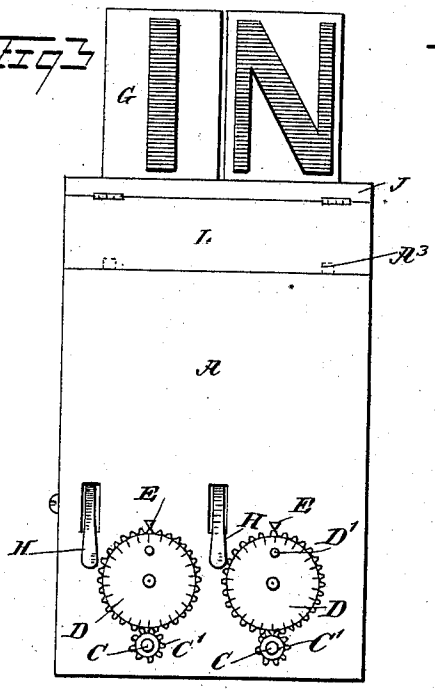


Fig 4

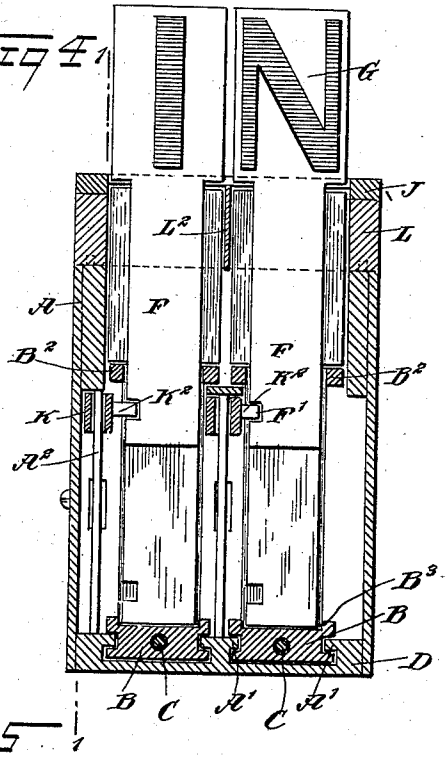


Fig 5

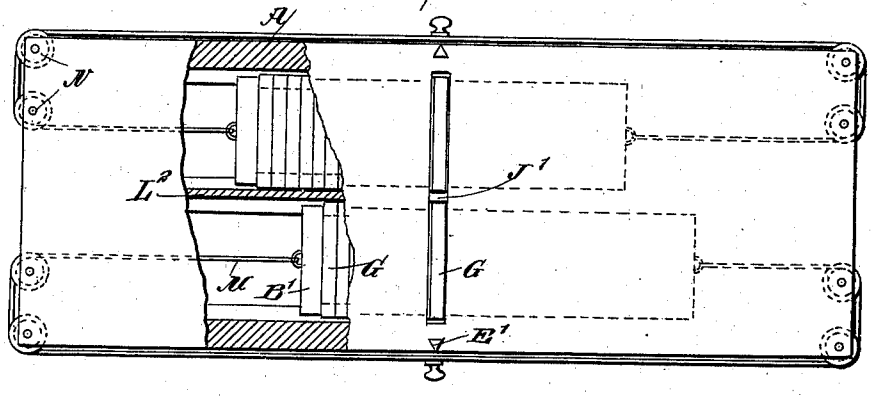
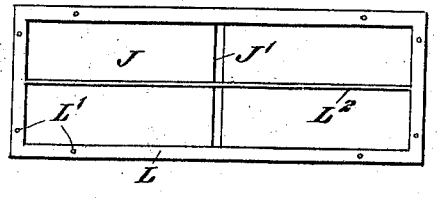


Fig 6



WITNESSES:

H. Walker

John Lotka

INVENTOR

Stephen Furdek.

BY Munn & Co.

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

STEPHEN FURDEK, OF CLEVELAND, OHIO.

EDUCATIONAL APPLIANCE.

SPECIFICATION forming part of Letters Patent No. 669,878, dated March 12, 1901.

Application filed June 19, 1900. Serial No. 20,833. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN FURDEK, a citizen of the United States, and a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Educational Appliance, of which the following is a full, clear, and exact description.

My invention relates to educational appliances, and has for its object to provide a simple, compact, and convenient device for use in schools to exhibit to the pupils various signs or characters, such as letters for the teaching of spelling or figures for instruction in arithmetic. The principle of the appliance is the same as in my Patent No. 643,894, of February 20, 1900; but the construction has been improved for the purpose of increasing its capacity without widening the appliance and in several other respects that will appear hereinafter.

The invention will now be fully described with reference to the accompanying drawings, and the features of novelty will then be pointed out in the appended claims.

Figure 1 is a sectional elevation of the improved appliance on the line 1 1 of Fig. 4. Fig. 2 is a sectional plan on the line 2 2 of Fig. 1. Fig. 3 is an end view. Fig. 4 is a sectional elevation on the line 4 4 of Fig. 1. Fig. 5 is a plan view of another form of construction, and Fig. 6 is an inverted plan of a lid or guide forming part of my invention.

As illustrated in Figs. 1 to 4, the device has a frame A, in which are adapted to slide lengthwise carriages B, such carriages being guided, as shown, by ledges A′, engaging grooves in the carriages. To actuate the carriages, I may provide for each of them an independent screw-shaft C, journaled in the frame and engaging a threaded aperture in the carriage. Each shaft carries at each end a pinion C′, which engages an indicating-wheel D, along the periphery of which are printed or otherwise marked the letters, figures, or other signs contained in the device. A stationary pointer E indicates which of said letters or signs is in the operative position. A handle D′ serves to turn the wheel D.

Each of the carriages B has end posts B′, between which are arranged to move vertically slides F. The posts B′ are connected at the top by spaced bars B^2, extending lengthwise of the carriage. The slides F fit between these bars B^2, and are thus held against lateral movement at the top, while such movement is prevented at the bottom by fitting the slide F into a longitudinal groove B^3 in the carriage. The slides F are provided at their upper ends with plates G, integral therewith or secured thereto. It is my intention that when the device is intended for instruction in spelling the plates G should exhibit capitals on one side and small letters on the other.

At the center of the frame A, I locate upright bars A^2, one for each carriage. In order to raise the slide F, which registers with the bar A^2, I provide any suitable mechanism; but preferably levers H are pivoted at H′ at each end of the device, said levers being held at their pivots with sufficient friction to make them stay in whatever position they are left. The inner ends of the levers H have slots H^2, engaged by pins K′, upon a lifting slide K, which has guided movement on the vertical bar A^2. The inner end of the slide K has a projection K^2, which is adapted to engage notches F′ in the slides F. When in their lower position, the slides K are so located that the projections K^2 may play freely in the notches F′ in the slides F when the carriages B are moved lengthwise, it being understood that the said notches normally register to form a continuous groove. By bringing the levers H into the position shown in Figs. 1 and 4 the slide F, which at the time is at the center of the device in registry with the projection K^2, is raised. The corresponding plate G is thereby projected above its neighbors, so as to be clearly visible, and as the projection K^2 of the raised slide K comes between the full portions of the adjacent slides F the carriage becomes locked against lengthwise movement until the slide K is again lowered.

In order to prevent the foremost of the lowered plates G from being visible, together with the raised plate, I may secure a cover L to the frame A, as by means of pins A^3, projecting from the frame A into apertures L′ in the cover. The cover L has a longitudinal partition L^2, corresponding to the bar A^2, located between the carriages and serving to guide the slides F in their upward movement. To

opposite ends of the cover L are hinged lids or plates J of such length as to leave between them a central slot J′, sufficient for the passage of the slides F and plates G.

While I have shown only two carriages in the drawings, it will be understood that in practice I may employ a much greater number. With the construction described above the carriages can be set very closely together, the width of the device being thus reduced.

The operation will be obvious without much further explanation. The shafts C are turned until the pointers E indicate the desired letter or character on the wheel D. The slides F bearing these letters or characters are then in registry with the projections K^2 of the slides K and may be raised by means of the levers H. It will be observed that the machine may be operated from either end, which is of particular convenience when, as described, the plates G bear characters on both sides. When the plates bear on one side a capital and on the other the corresponding small letter, the teacher may turn the device so that the pupils will see, say, the capitals, while the teacher will at the same time see the small letters, and will thus be able to ascertain if the device works properly. For instance, as shown in Figs. 3 and 4, the pupils will see the word "In." From the teacher's side the device would then show the word "in."

The construction shown in Fig. 5 differs from that described above in the mechanism for feeding the carriage, but is the same in other respects. Instead of the screw-shaft C and indicating-wheel D, I here employ a tape or band M, the ends of which are secured to the carriage B, the tape passing over pulleys N. This tape bears on its face the successive characters or signs which appear on the plates G, and these characters are so arranged that the character appearing in front in line with the index E′ is the same as that which is borne by the plate G, which at that time is in the central or operative position.

While I have described the appliance as intended for educational use, it may be employed for other purposes also, as for displaying short advertisements, and various other uses will suggest themselves, the apparatus being adapted for service as a signal for calling cabs, as an indicator for various purposes, as a cash-register, (when the plates G will bear appropriate figures and monetary signs,) &c. The slides F may be constructed with types adapted to effect an impression when a slide is moved, so that a permanent record will be preserved of any matter displayed by the raised plates G.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the frame, the sliding carriage thereon, the slides movable on the carriage, display-plates carried by the slides, means for projecting a slide beyond its neighbors, and a screw-shaft journaled in the carriage and having an operating engagement with the carriage.

2. The combination of the frame, the sliding carriage thereon, the slides movable on the carriage, display-plates carried by the slides, means for projecting a slide beyond its neighbors, a shifting shaft journaled in the frame and having an operating engagement with the carriage, and an indicator operated by the rotation of said shaft.

3. The combination of the frame, the sliding carriage, the slides having guided movement in the carriage, display-plates carried by the slides, means for projecting a plate beyond its neighbors, and a cover secured to the frame, and having a longitudinal partition in a plane between adjacent carriages.

4. The combination of the frame, the sliding carriage, the slides having guided movement in the carriage, display-plates carried by the slides, means for projecting a plate beyond its neighbors, and a cover secured to the frame, said cover having a longitudinal partition in a plane between adjacent carriages, and lids hinged transversely to the ends of the cover and of such length as to leave a transverse central slot between them.

5. The combination of the frame, the sliding carriage, the slides mounted in the carriage and provided with display-plates, and a lifting mechanism consisting of a slide movable transversely of the direction in which the carriage moves, and arranged, when in its position of rest, to permit the display-slides to move freely with the carriage, and levers fulcrumed upon the frame and projecting therefrom at opposite ends, the inner ends of the levers being operatively connected with said lifting-slide.

6. The combination of the frame, the carriage mounted to slide thereon, a shifting device engaging the carriage, and extending therefrom to each end of the frame, an indicating device located at each end of the frame and operatively connected with the carriage, slides carrying display-plates and movable relatively to the carriage, and mechanism for projecting a slide beyond its neighbors, said mechanism having operating members at each end of the frame.

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

STEPHEN FURDEK.

Witnesses:
JOSEPH SHOKAR,
M. COLUMBUS.