

(No Model.)

R. B. COOLEY.

COMBINED ROLLING BLACKBOARD AND COPY HOLDER.

No. 371,429.

Patented Oct. 11, 1887.

Fig. 1.

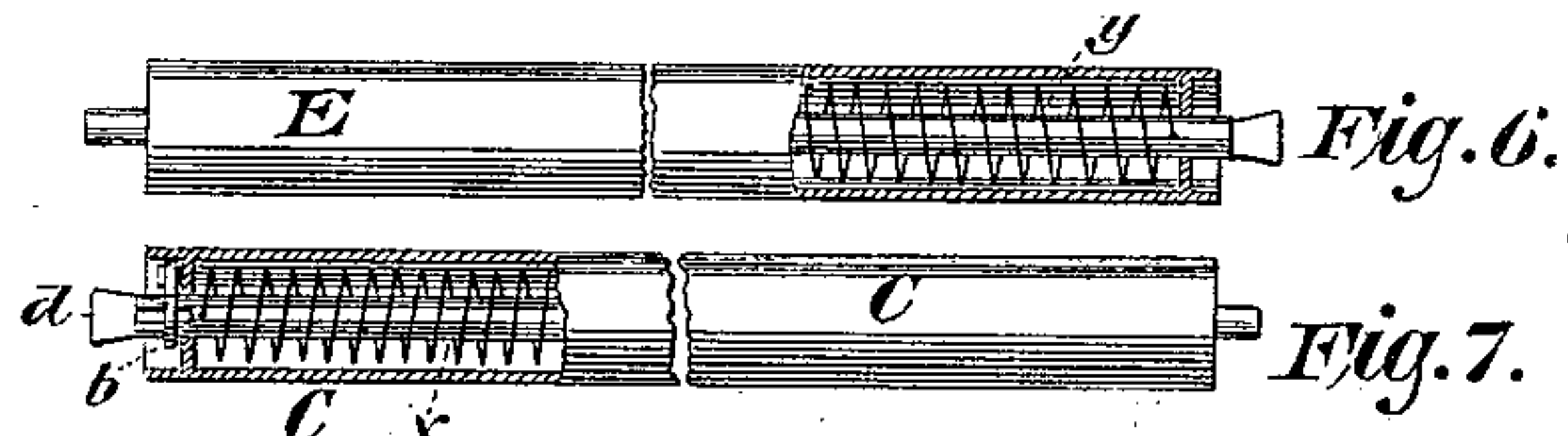
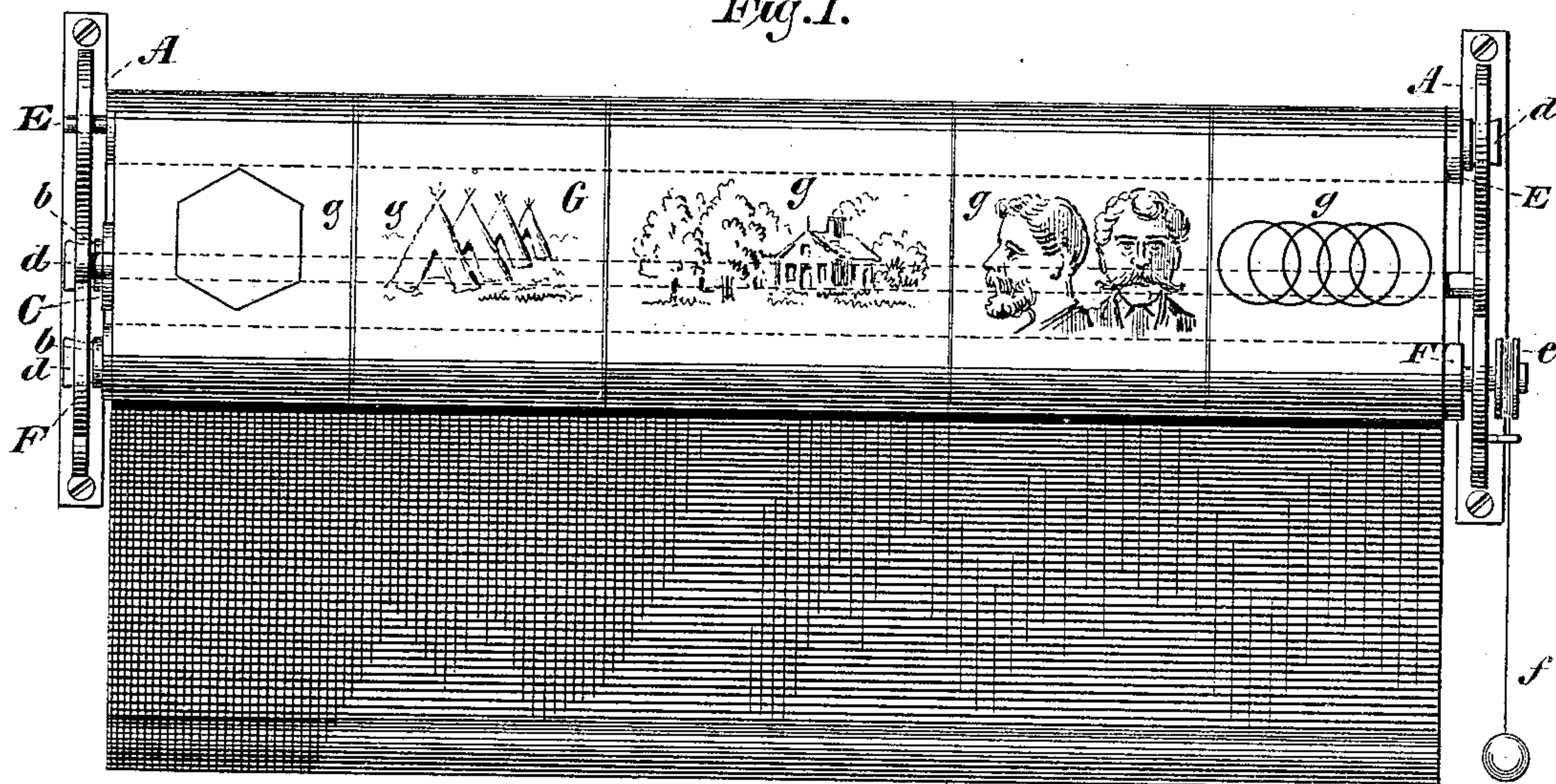


Fig. 8.



Fig. 2.

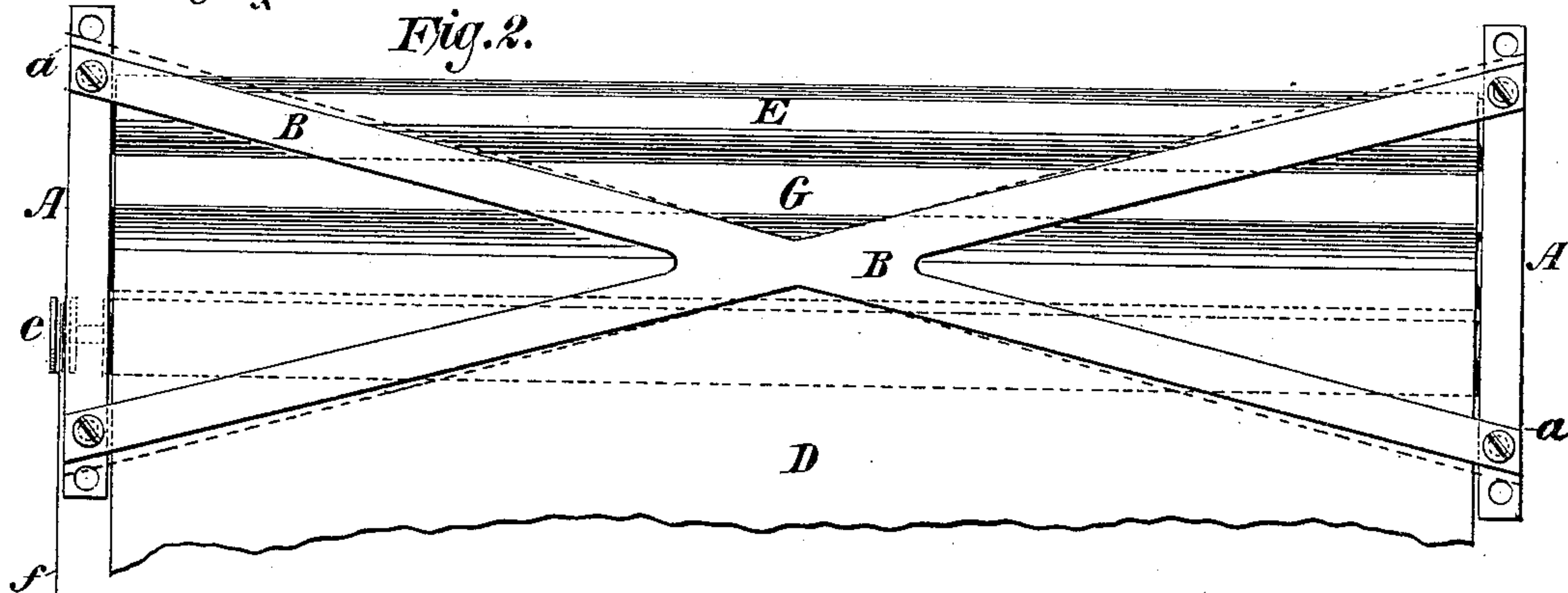


Fig. 4.

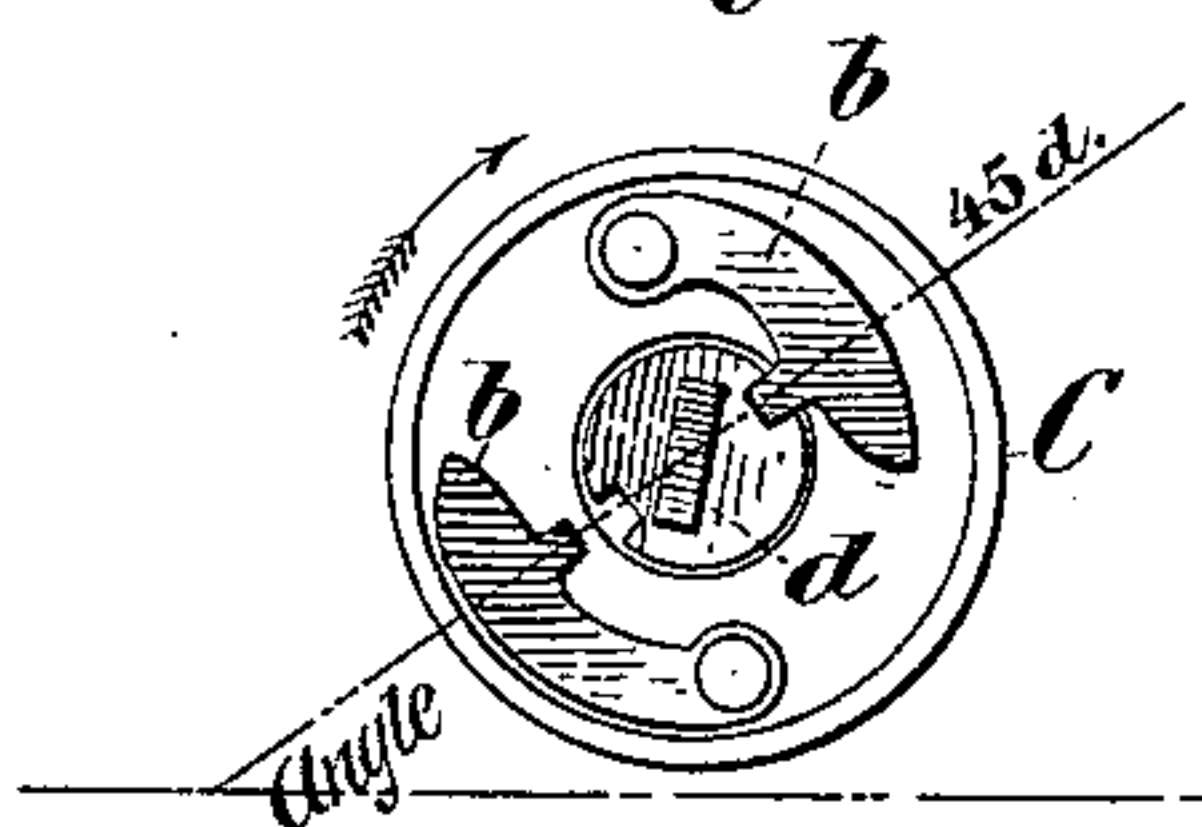


Fig. 3.

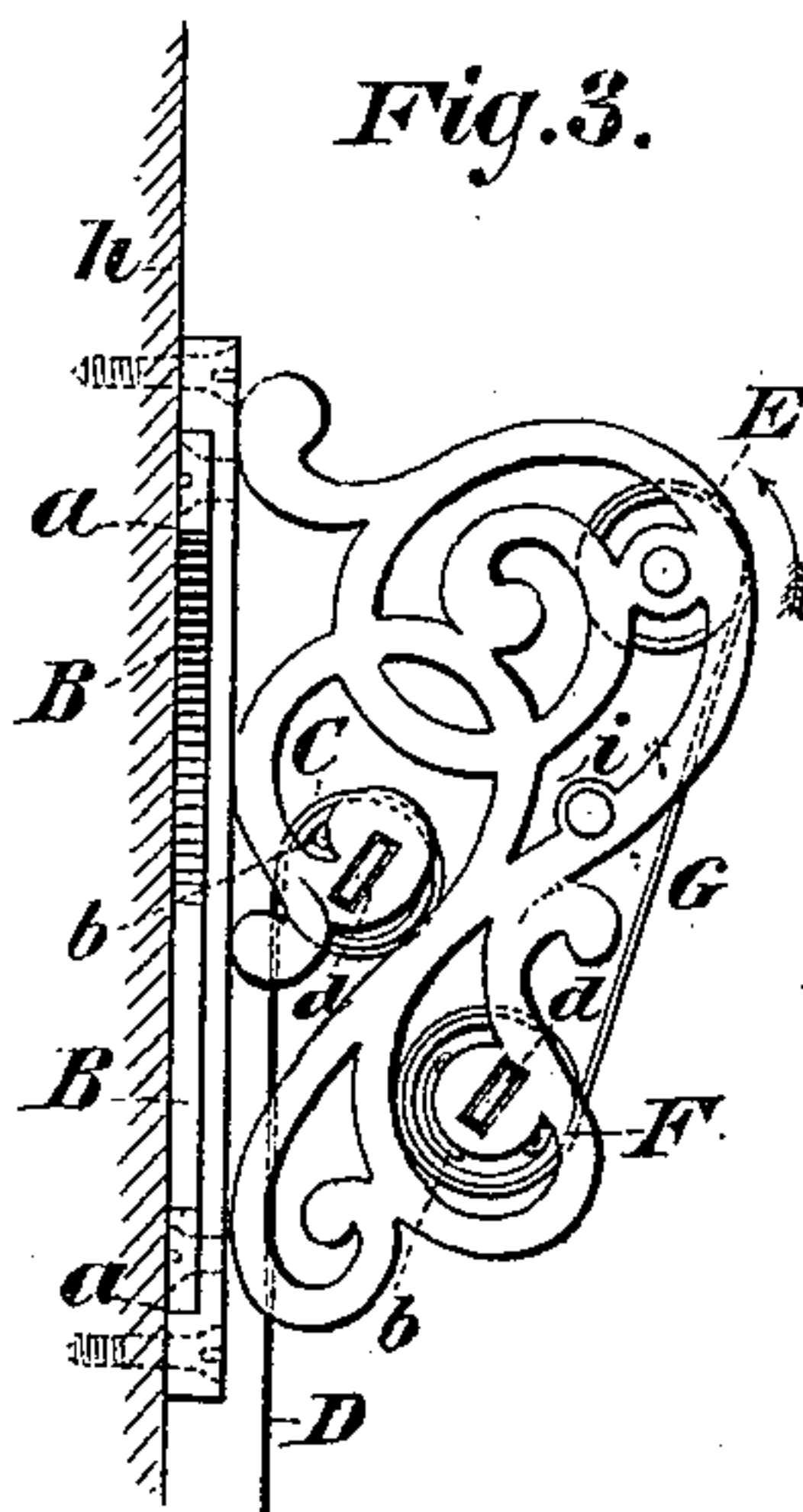
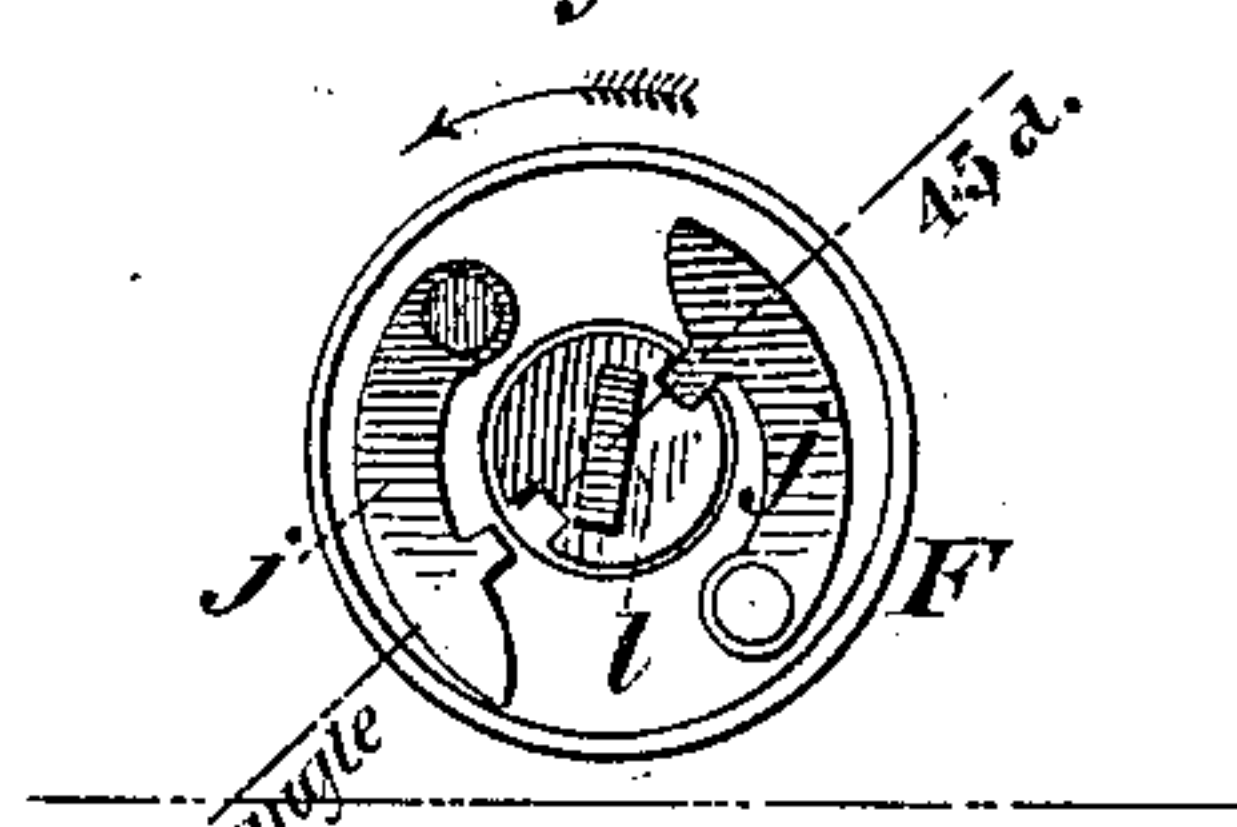


Fig. 5.



WITNESSES:

Gustave Detmold
T. F. Bourne.

INVENTOR

Ralph B. Cooley,
BY Briesen & Steel

ATTORNEYS

UNITED STATES PATENT OFFICE.

RALPH B. COOLEY, OF BROOKLYN, NEW YORK.

COMBINED ROLLING BLACKBOARD AND COPY-HOLDER.

SPECIFICATION forming part of Letters Patent No. 371,429, dated October 11, 1887.

Application filed April 15, 1887. Serial No. 234,839. (No model.)

To all whom it may concern:

Be it known that I, RALPH B. COOLEY, of Brooklyn, Kings county, New York, have invented a new and Improved Combined Rolling Blackboard and Copy-Holder, of which the following is a full, clear, and exact description.

My invention relates to a combined rolling blackboard and copy holder or carrier.

10 The invention consists, principally, in combining in a frame a rolling blackboard mounted on a spring catch-roller with a roll copy sheet or band carried by a pair of rollers in front of the upper part of said blackboard, one of said
15 pair of rollers having a spring and no catch, and the other of said rollers having a catch and no spring, so that the copy will always be taut, as hereinafter more fully set forth.

Reference is to be had to the accompanying
20 drawings, forming part of this specification, in which Figure 1 is a face view of a combined rolling blackboard and copy-carrier constructed according to my invention. Fig. 2 is a rear view of same. Fig. 3 is a side view
25 of same. Figs. 4 and 5 are detail end views of two rollers, showing the manner of setting a roller in its bearings so that the catches will act at different inclinations; and Figs. 6, 7, and 8 are detail sectional views of the rollers
30 to be used in carrying out my invention.

A A in the drawings represent two brackets. These brackets are united at their backs by a brace, B. Preferably this brace is X-shaped, as in Fig. 2, its ends entering recesses *a* in the
35 backs of the brackets. The brace B is made springy at its ends and slightly wider at its ends than the distance between the shoulders or ends of the recess *a* on each bracket A, as indicated by dotted lines in Fig. 2. The ends
40 of the brace B are sprung into place in the recesses *a* and suitably secured by screws or otherwise. This spring-tension of the brace B serves to strengthen the frame-work materially and to hold the brackets firmly in
45 position. The brackets A may be further braced by one or more rods, *i*. The structure A A B may be secured to a wall or other support, *h*, by screws, as in Fig. 3, when the brace B will be pressed against the support *h*,
50 thereby giving additional strength to the frame-work. The brace B can be other than

X shaped, if desired, and yet have a spring-tension at its ends.

C is a roller journaled in the brackets A, and provided with the spring *x* for revolving 55 it, the same as in a spring shade-roller. The roller C is also provided with catches *b*, Figs. 4 and 7, and notched shoulder on the gudgeon *d* to receive the catches *b* to check the revolution of the roller in the well-known manner 60 of spring shade-rollers. The roller C carries one end of a flexible blackboard, D, adapted to be wound upon said roller.

E is a roller journaled in the brackets A above the level of the roller C, and provided 65 with a spring, *y*, for revolving same, but with no catches to check its revolution. F is a roller journaled in the brackets A, and it is provided with catches *j* and notched shoulder on the gudgeon *l*, but with no spring to re- 70 solve it. The gudgeons *d* and *l* serve as immovable supports for the rollers C and F.

To the two rollers E and F are secured the ends of a band, G, of suitable flexible material, and adapted to be alternately wound upon 75 and unwound from said rollers E and F.

The flexible blackboard D is wound upon the roller C, by preference, from the side nearer the brace B, and the catches *b* are arranged 80 on the roller as shown in Fig. 4. The tendency of the spring *x* in said roller is to turn the roller in the direction of the arrow in Fig. 4, and thereby to wind the blackboard D upon the roller C. By drawing upon the blackboard the spring in roller C will be wound ready to 85 act to subsequently wind up the blackboard. The band G is wound upon the rollers E and F from their outer edges, as in Fig. 3, and the catches *j* on roller F are set the reverse to those *b* on roller C. (See Fig. 5.) The tendency of 90 the spring *y* in roller E is to unwind and turn the roller E, and so turn the roller F, by means of band G, in the direction of the arrow in Figs. 3 and 5, and thereby wind the band G upon roller E and unwind it from roller F. 95 The spring-roller E, having no catches, keeps the band G taut between the rollers E and F.

Upon the end of roller F, or to its spindle, and preferably outside of bracket A, is attached a grooved pulley, *e*, upon which is wound 100 one end of the cord *f*, to be drawn upon to revolve roller F.

Upon band G are produced, in any desirable manner, copies, sketches, letters, or the like to be used as a copy in connection with the blackboard D. These copies may be so arranged 5 that each time the roller F is stopped and held by a catch *j* a certain series of copies will be exposed. By revolving the roller F the band G will be wound upon said roller, and at the same time the band G will revolve roller E 10 and be unwound therefrom. This revolution of roller E winds the spring *y* in same.

It will be seen that the copy is displayed in front of the upper part of the flexible blackboard, and therefore immediately in front of 15 the pupil's eye, leaving the blackboard within convenient reach of his hand.

To cause the roller E to wind the band G upon itself to change the sketch or copy presented to view, the catches *j* on roller F are 20 first released by a slight pull on cord *f*, when the spring-roller E will revolve under the influence of the spring *y* and draw the band G, unwinding it from roller F and winding it upon itself, until stopped by a catch *j* on roller 25 F dropping into a notch in gudgeon *l*.

In Fig. 3 the holder is represented as being held in a vertical position; but it may be laid upon a desk or table in a horizontal position, if desired. To insure that the catches *b* and *j* 30 will always drop into the notches in gudgeons *d* and *l* whether the holder be in a horizontal or vertical position, I place the notches in the shoulders of the gudgeons at an angle of about forty-five degrees, as shown in Figs. 4 and 5. 35 In this position the notches will receive the ends of the catches in whatever position the holder may be placed, whether horizontal or vertical.

The roller F may be revolved by other 40 means than by cord *f* or pulley *e*, if desired.

With my improved construction I produce a convenient combined blackboard and copy-holder, the copy always being at hand and

quickly put into position. The blackboard can be kept rolled up and free from dust when 45 not in use, and small space is needed in which to keep the holder.

Having now described my invention, what I claim is—

1. The brackets A combined with the roller 50 C, having the flexible blackboard D, secured at one end to said roller and having the other end freely suspended, and the rollers E and F, carrying the respective ends of the copy-band G, all arranged to display the copy in front of 55 and above the blackboard, substantially as described, and for the purposes set forth.

2. The brackets A, spring catch roller C, and blackboard D, carried thereby, in combination with the roller E, having a spring and no 60 catches, roller F, having catches and no spring, the catches on rollers C and F being reversed, and copy-band G, connecting rollers E and F, the whole constituting a combined blackboard and movable copy-holder, the copy cov- 65 ering part of the blackboard and being displayed in front of the same, as specified.

3. The rollers C, carrying one end of flexible blackboard D, in combination with the spring-roller E, having no catch, catch roller 70 F, having no spring, band G, connecting the rollers E and F in front of said blackboard, and means, substantially as described, for revolving roller F, as set forth.

4. The flexible X-shaped back B, having its 75 ends wider than the lengths of the recesses *a*, in combination with the brackets A, having said recesses *a*, into which the ends of the braces are adapted to be sprung, substantially as herein shown and described.

RALPH B. COOLEY.

Witnesses:

T. F. BOURNE,
HARRY M. TURK,
H. G. GORIN.