

(No Model.)

H. S. PRENTISS.
MULTIPLE CAM.

No. 428,319.

Patented May 20, 1890.

Fig. 1.

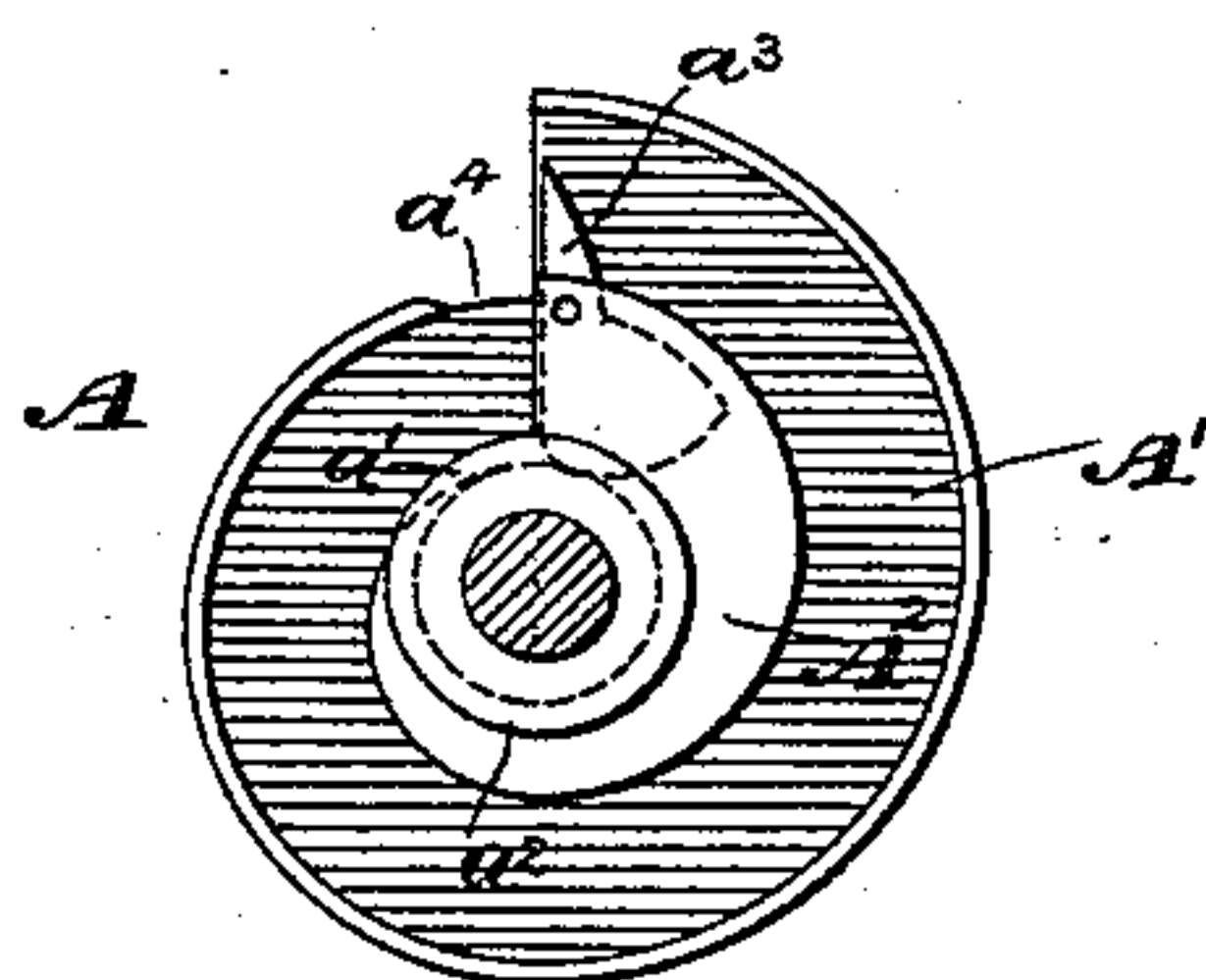


Fig. 2.

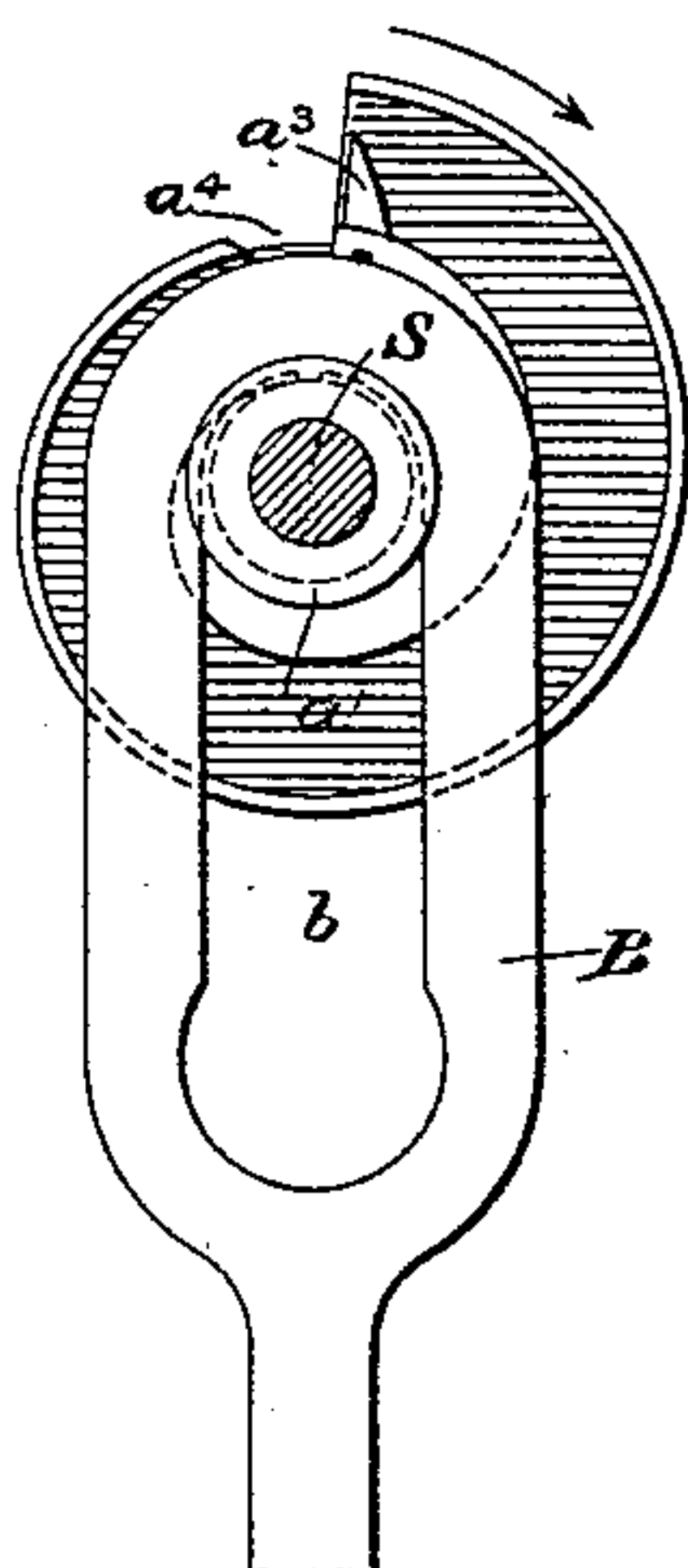


Fig. 3.

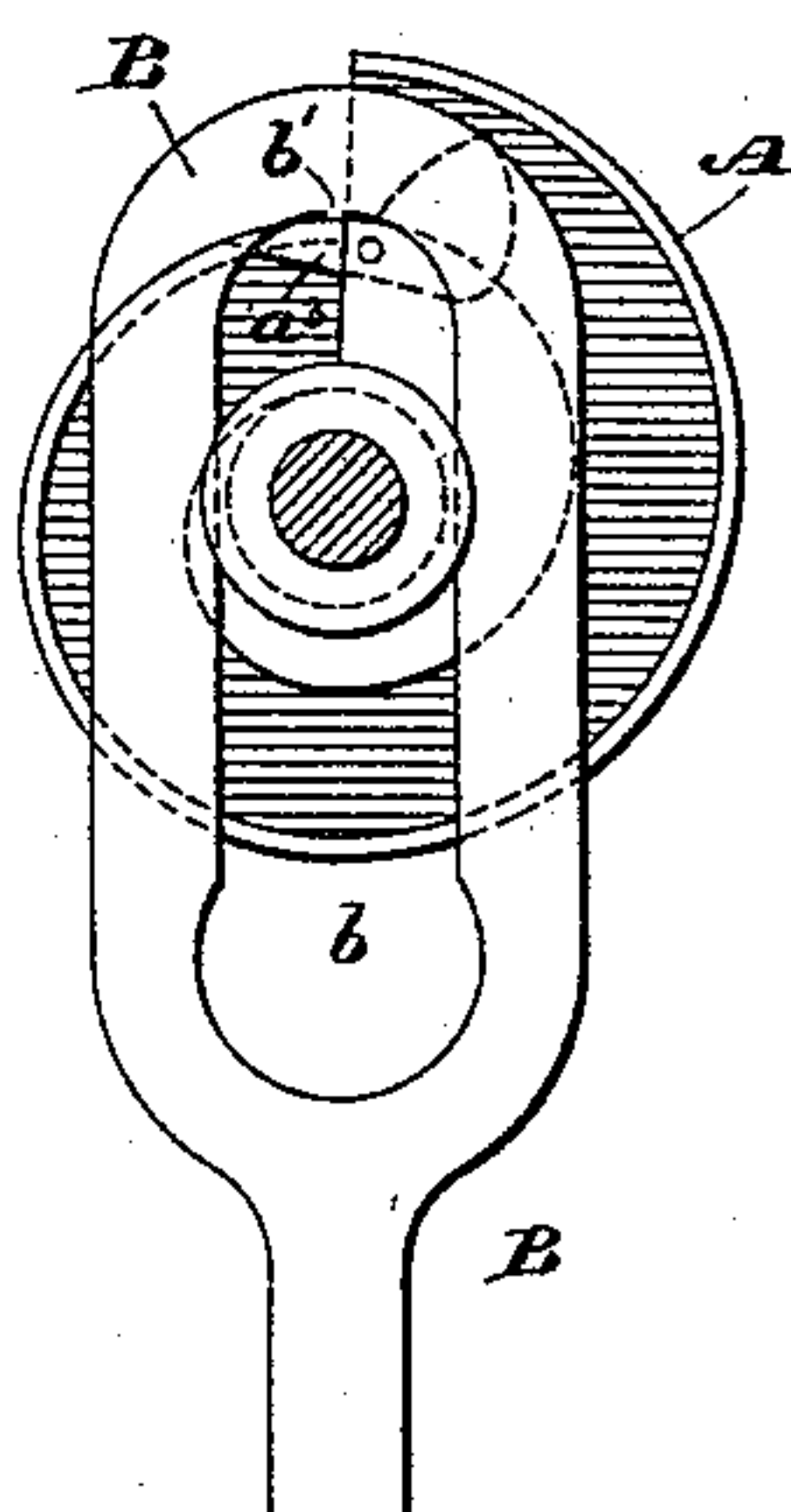


Fig. 4.

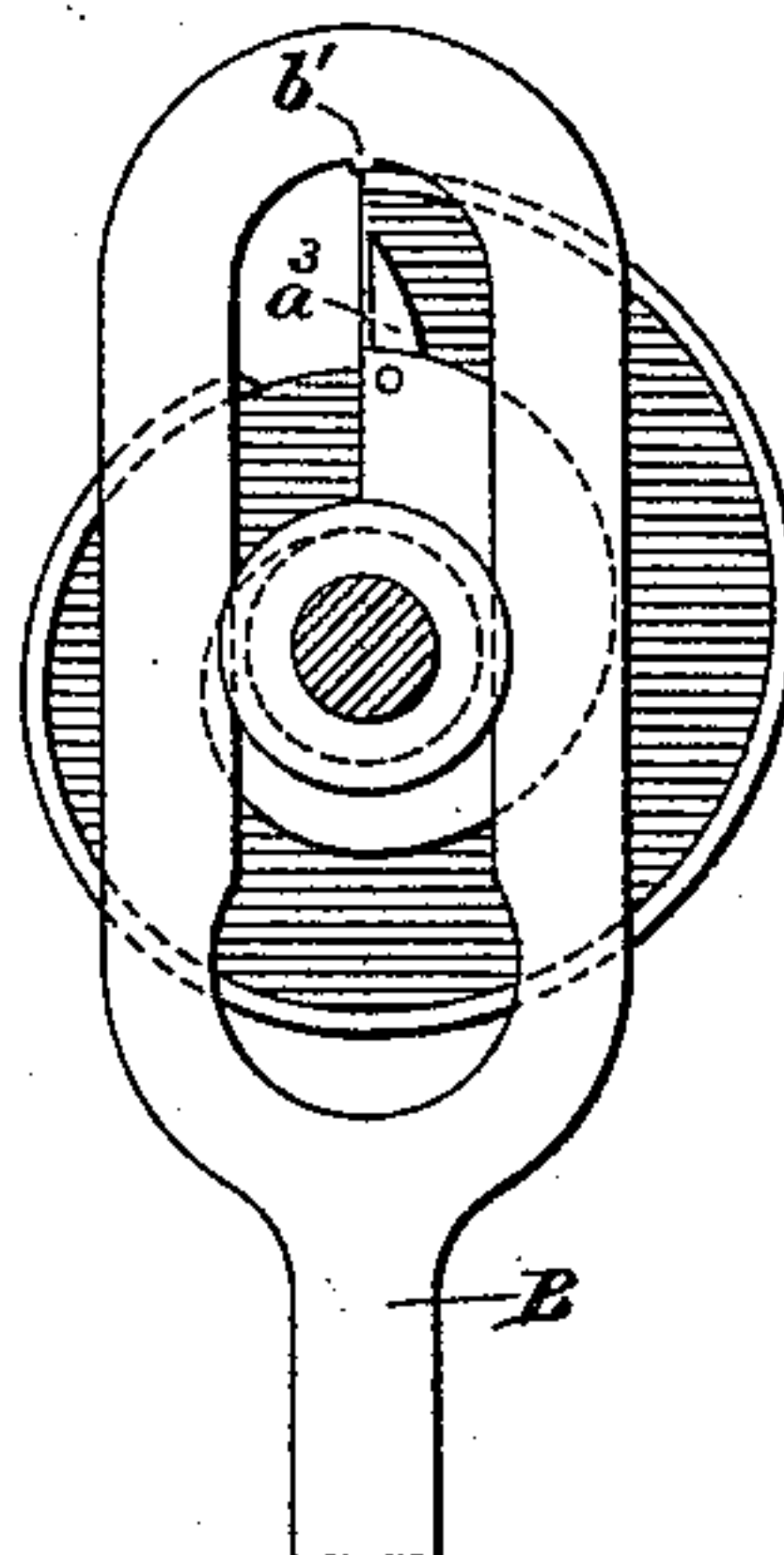
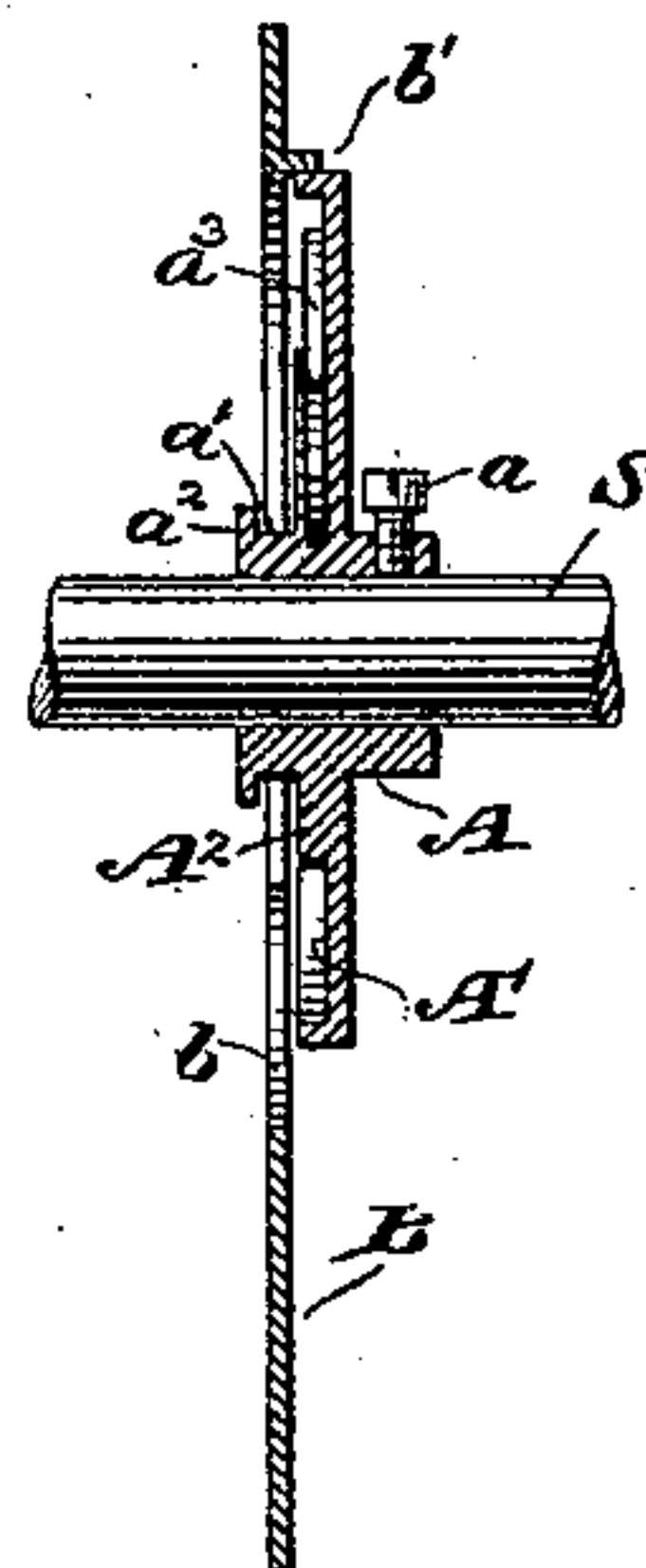


Fig. 5.



Witnesses
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MULTIPLE CAM.

SPECIFICATION forming part of Letters Patent No. 428,319, dated May 20, 1890.

Application filed May 10, 1889. Renewed January 29, 1890. Serial No. 338,457. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. PRENTISS, a citizen of the United States, residing in New York, in the county and State of New York, have invented certain new and useful Improvements in Multiple Cams, of which the following is a specification.

The object of the invention is to provide a cam which shall operate but once in two revolutions of the shaft on which it is fixed.

The invention will be readily understood by inspection of the accompanying drawings, in which—

Figure 1 is a side view of a portion of the device. Figs. 2, 3, and 4 show the device in different positions, and Fig. 5 is a sectional view in the position shown in Fig. 4.

The device consists of two principal parts, A and B. The portion A is intended to be fixed upon a revolving shaft, and this can be accomplished by the screw a . (Shown in Fig. 5.)

The portion B is that which is tripped or operated by the part A, and by means of which the device performs its functions. The slot or opening b in the piece B fits upon the piece A at the point a' and behind the shoulder a^2 , which holds B in position and guides it. The lower end of the opening b in the piece B is enlarged so that it may be placed over the shoulder a^2 , and thus slide up and down upon the circular portion a' on the piece A. The part A has its side recessed, as at A' ; but the edge and the central cam-shaped piece A^2 are raised slightly. The piece B has a projection b' , which, when in place, as shown, rests upon and slides over the edge of A^2 and the rim of A. Pivoted between the raised portion A^2 and the recessed portion A' is the small piece a^3 , which normally stands in the position shown in Figs. 1, 2, and 4, but which is turned into the position shown in Fig. 3 when the piece B has reached the position there shown.

In Fig. 2 the cam is shown after the piece B has just dropped and is ready to begin to move forward for a second operation. In Fig. 3 the cam has revolved once. In Fig. 4 it has revolved twice and is again ready to

operate. If we suppose the shafts S in Fig. 2 to be moving in the direction indicated by the arrow, the cam A, which turns freely within the opening in the piece B, gradually carries the piece B from the position shown in Fig. 2 up into the position shown in Figs. 3 and 4—that is, the small projection b' as it rests upon the edge of the raised portion A^2 gradually lifts B, and just before it reaches the position shown in Fig. 3 the projection b' strikes the curved edge of the pivoted piece a^3 and turns it into the position shown in Fig. 3. This allows the projection b to ride across the open space a^4 and reach the outer edge of A. The continued revolution of the cam then gradually lifts the piece B until it has reached the position shown in Fig. 4. As soon as the projection b' has passed the space a^4 and rests upon the rim of A the pivoted piece a^3 falls back into its place by reason of the greater weight of its lower end, as shown in Fig. 1, thus leaving the space a^4 open, and when the parts are in the position shown in Fig. 4 a little further movement carries the projection b' beyond the rim of A, and the piece B instantly drops into the position shown in Fig. 2.

The device is adapted for many uses, but it is especially useful in a clock which it is desired shall operate a calendar. The cam may be put upon the hour-hand shaft, which revolves once in twelve hours, or twice in the day, and as the calendar is required to be set in operation but once in twenty-four hours the use of this device saves the necessity of adding an extra wheel and shaft which shall revolve once in twenty-four hours.

It is evident that the same device can be applied in such a way as to have the cam operate but once in three or more revolutions of the shaft upon which it is fixed, as it would require only a repetition of the small piece a^3 in combination with the raised portion A^2 .

I claim as my invention—

1. In a multiple cam, the combination, with the volute cam track or surface formed by the parts A' and A^2 , and having a break

or opening a^4 between them, of a pivoted piece a^3 bridging said break, as and for the purpose set forth.

5 2. A multiple cam consisting of the combination of the piece A, having upon its surface the volute-shaped part A^2 and the volute rim, the piece a^3 , pivoted as shown to connect A^2 and the rim, and the piece B.

In testimony whereof I have hereunto subscribed my name this 9th day of May, A. D. 1889.

HENRY S. PRENTISS.

Witnesses:

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