

No. 735,737.

PATENTED AUG. 11, 1903.

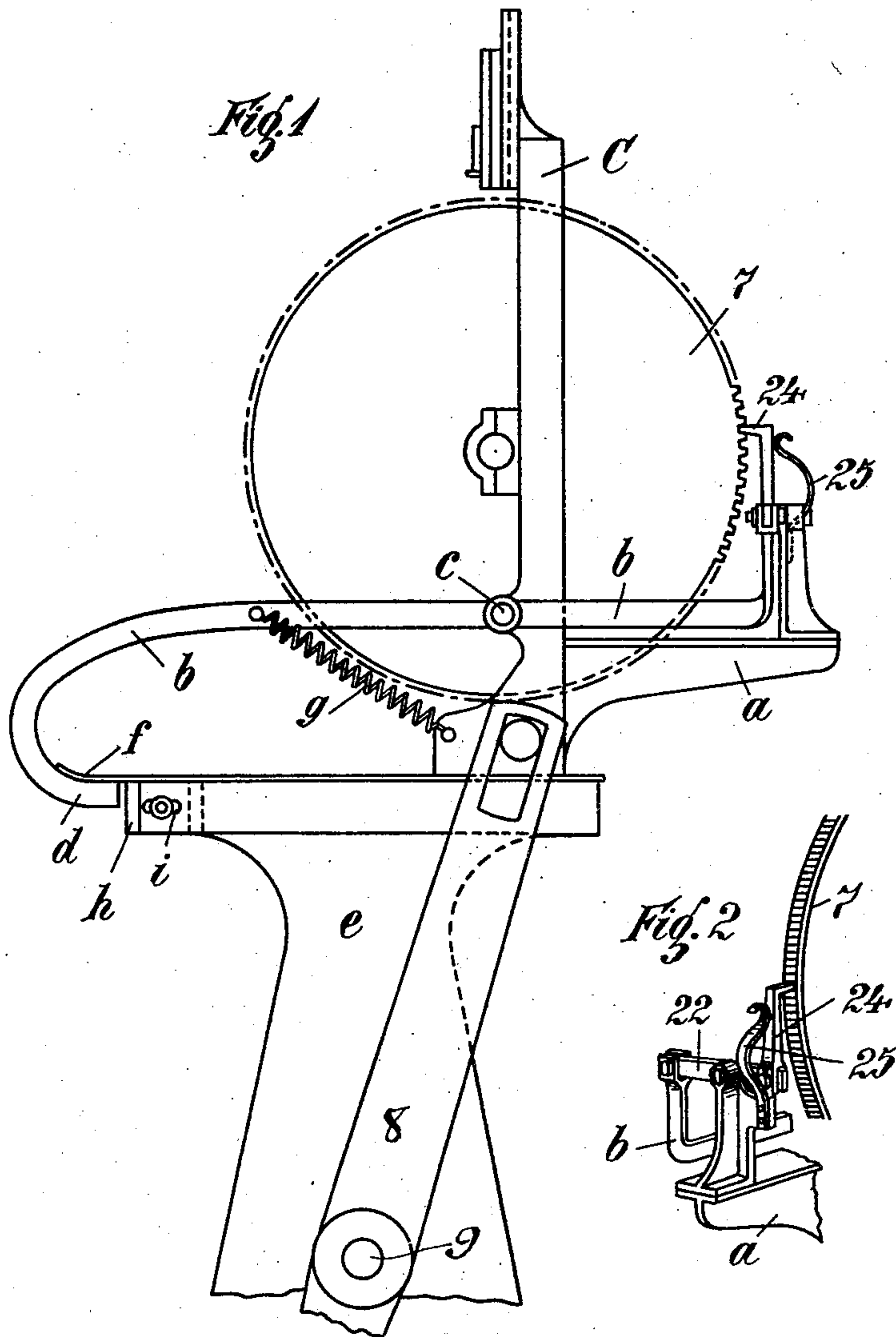
C. E. FLEMMING.

MACHINE FOR DRILLING AND FILLING BRUSH BACKS.

APPLICATION FILED DEC. 11, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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Inventor:
Carl Edward Fleming
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2 SHEETS—SHEET 2.

Fig. 3.

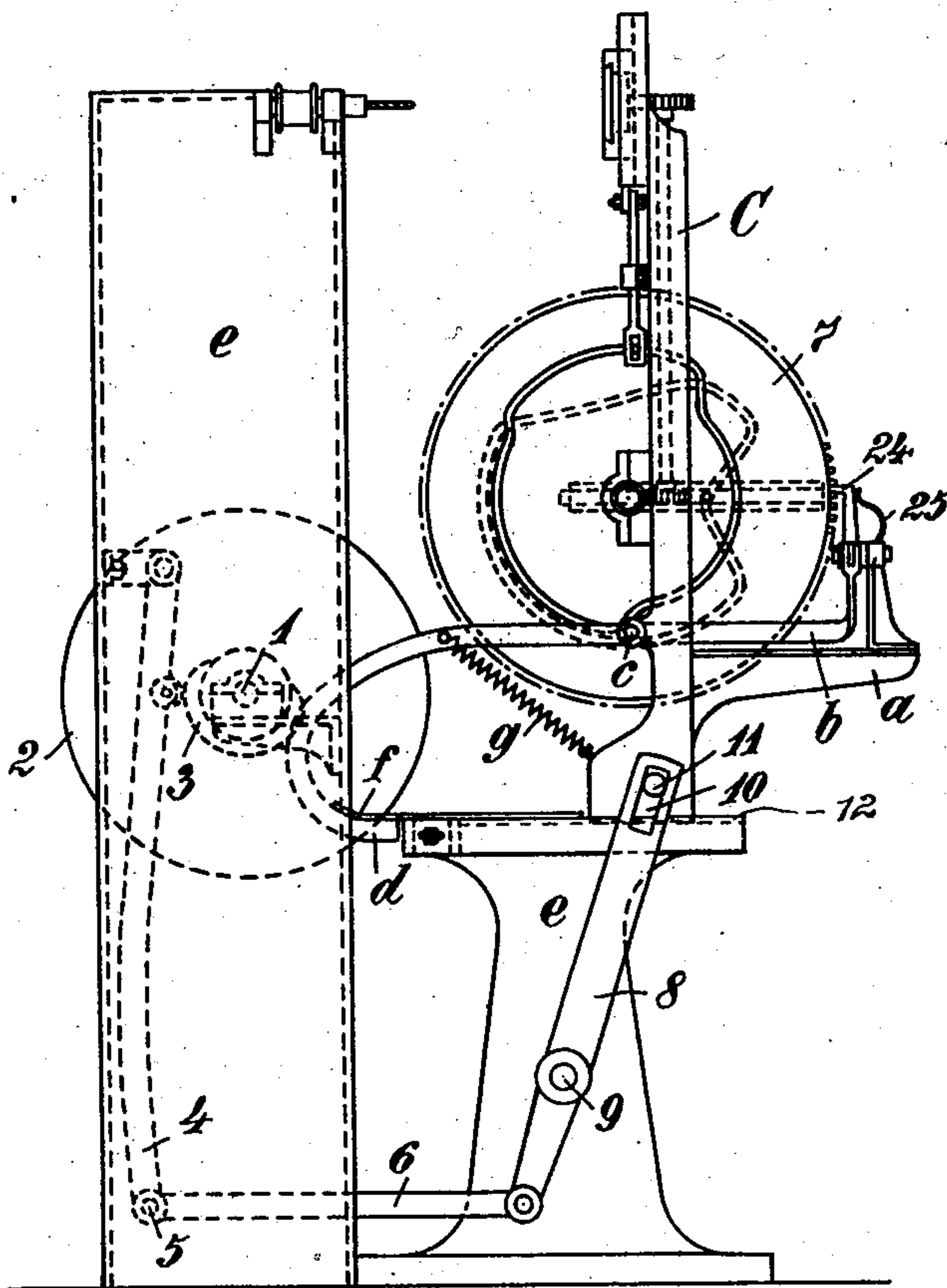
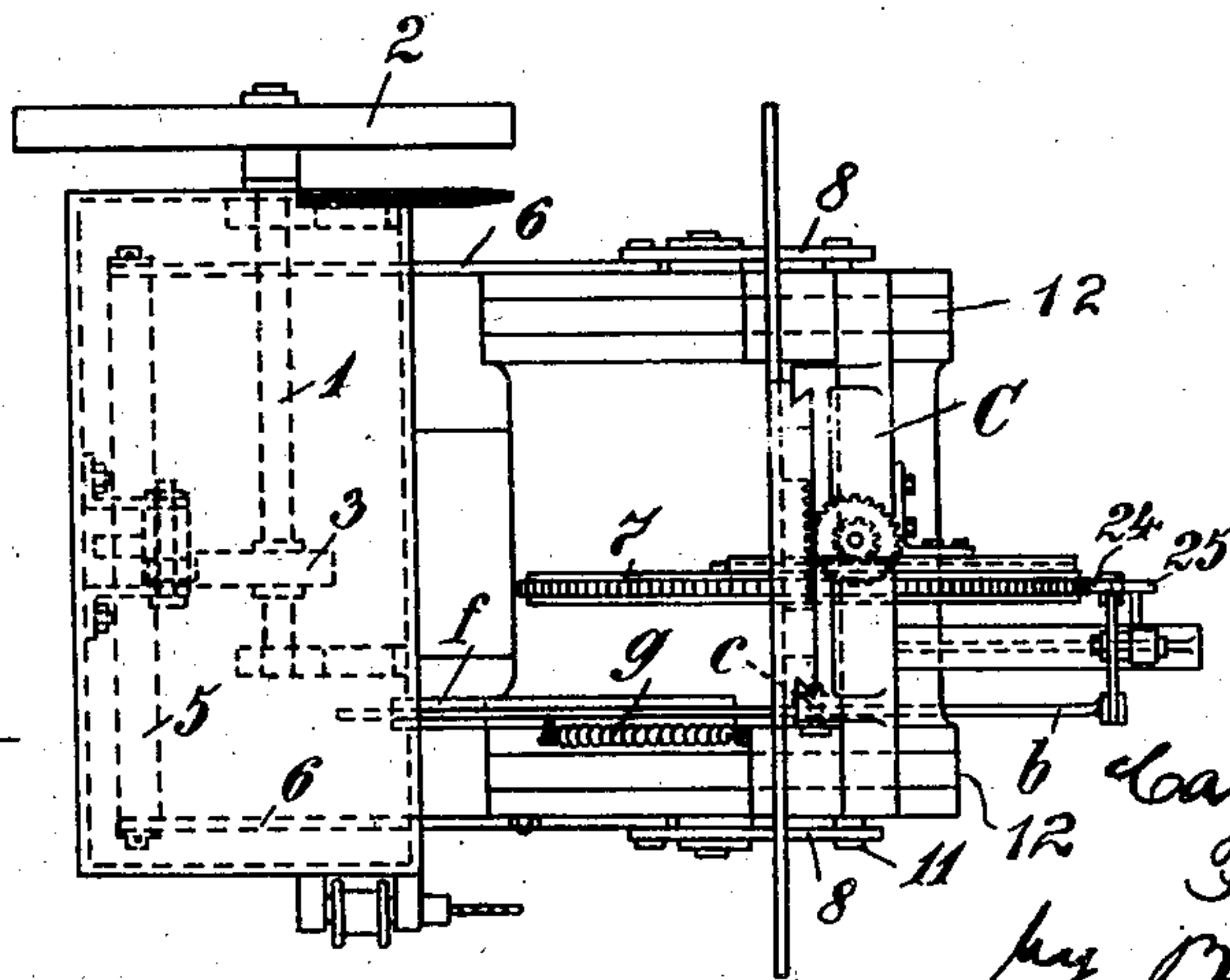


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

CARL EDUARD FLEMMING, OF SCHÖNHEIDE, GERMANY.

MACHINE FOR DRILLING AND FILLING BRUSH-BACKS.

SPECIFICATION forming part of Letters Patent No. 735,737, dated August 11, 1903.

Application filed December 11, 1902. Serial No. 134,855. (No model.)

To all whom it may concern:

Be it known that I, CARL EDUARD FLEMMING, manufacturer, residing at 164 Hauptstrasse, Schönheide, Erzgebirge, Germany, have invented certain new and useful Improvements in Machines for Drilling and Filling Brush-Backs, (for which I have applied for a patent in Germany, dated September 15, 1902,) of which the following is a specification.

In the machine for drilling and filling brush-backs described in the specification to United States application, Serial No. 74,231, filed September 3, 1901, the movable frame of the automatically-operating machine with horizontally-placed tools carries all the mechanism requisite for the shifting of the slides carrying the brush-backs inclusive of the templet-disk, so that only the movement of the templet-disk and that of the frame have to be effected from the fixed framing. With this arrangement of the machine irregularities may occur in the working, because the ratchet-pawl after the movement of the frame does not again engage with one of the teeth-spaces of the templet-disk in particular when small brushes are to be made, and consequently the distance between the teeth of the templet-disk is very small. According to the present invention the said irregularities are obviated by also mounting the ratchet mechanism upon the movable frame, so that the ratchet-pawl remains in gear with the templet-disk while the frame is being moved. By this arrangement also the ratchet mechanism is rendered more simple of construction.

On the accompanying drawings the improved arrangement of the ratchet mechanism is shown applied, by way of example, to a machine having a frame with rectilinear to-and-fro movement.

Figure 1 shows a side view, and Fig. 2 shows a part perspective view, of the upper part of a machine; and Fig. 3 is a side elevation, and Fig. 4 is a top plan view, of a complete machine embodying this invention.

As shown in Figs. 3 and 4, the cam-wheel 3 is turned by means of the main shaft 1, which is arranged in the rigid frame *e* of the

machine and is driven by pulley 2. The lever 4, which is pivoted at one end to the frame *e*, is reciprocated by means of this cam-wheel. At the other end of the lever 4 is a shaft 5, to the ends of which are attached two rods 6. The latter are pivotally connected with double levers 8, which are pivoted at 9 to the main frame and are provided with slots 10, which engage pins 11 on a movable frame *C*. By turning the shaft 1 the frame *C* is caused to reciprocate in guide-ways 12 in the frame *e*.

The ratchet mechanism is mainly the same as described in the said former patent, and the corresponding parts are marked with the same reference letters and numerals. The movable frame *C* carries in the known manner the templet-disk 7, the step-by-step motion of which is effected by the pawl 24, spring 25, and double-ended lever 22. These parts are mounted on a support *a*, fixed to the frame *C*. In this example of construction the two-ended lever 22 has connected to it a second two-ended lever *b*, whose pivot *c* is mounted on the frame *C*, and whose hook-shaped end *d* is in proximity to the fixed framing of the machine. On the fixed framing *e*, which serves as a guide to the moving frame *C*, is fixed a blade-spring *f*. As soon as the frame *C* moves away from the machine—that is to say, to the right hand at Fig. 1—the hooked end *d* of the lever *b* bears against the fixed framing *e*, (the position shown at Fig. 1.) On the further motion to the right it is raised, together with the spring *f*, and thus the two-armed lever 22 is turned and the pawl 24 raised. When the frame *C* moves to the left hand, the curved end *d* of lever *b* sinks again, and the pawl 24 consequently also sinks. The spring *g* serves for insuring the said motion of lever *b*.

When the machine is required to make a larger or a smaller number of holes in the brush-backs, so that the pitch of the teeth of the templet-disk 7 requires to be altered, the ratchet motion must be made to take place correspondingly earlier or later. For this purpose the abutment-piece *h* on the framing *e* for the curved lever is made adjustable in a guide *i*.

Having thus particularly described the na-

ture of my said invention and the best means I know of carrying the same into practical effect, I claim—

1. In an automatic machine for drilling and
5 filling brush-backs with horizontally-placed
tools, in which the movable frame carries all
the mechanism for shifting the brush-backs,
a fixed frame on which said movable frame is
mounted, a ratchet device for the templet-disk
10 mounted on the said movable frame and oper-
ated from the fixed frame, and means for hold-
ing said pawl in engagement with the templet-
disk during the movement of the movable
frame.

15 2. In an automatic machine for drilling and
filling brush-backs of the kind herein referred
to, a fixed frame, a movable frame mounted
on said fixed frame, a templet-disk carried by
said movable frame, a ratchet device for the
20 templet-disk mounted on the movable frame
which carries the mechanisms for shifting the
brush-backs, a lever pivoted to said movable
frame and operating said ratchet device, and
an abutment-piece on the fixed frame with

which said lever comes in contact on the move- 25
ment of said frame, substantially as and for
the purpose described.

3. In an automatic machine for drilling and
filling brush-backs of the kind herein referred
to, a fixed frame, a movable frame mounted 30
on said fixed frame, a templet-disk carried by
said movable frame, a ratchet device for the
templet-disk mounted on the movable frame
which carries the mechanisms for shifting the
brush-backs, a lever pivoted to said movable 35
frame and operating said ratchet device and
an adjustable abutment-piece on the fixed
frame with which said lever comes in contact
on the movement of said frame, substantially
as described. 40

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

CARL EDUARD FLEMMING.

Witnesses:

EMIL SCHMIDT,
HANS LAMBERT.