

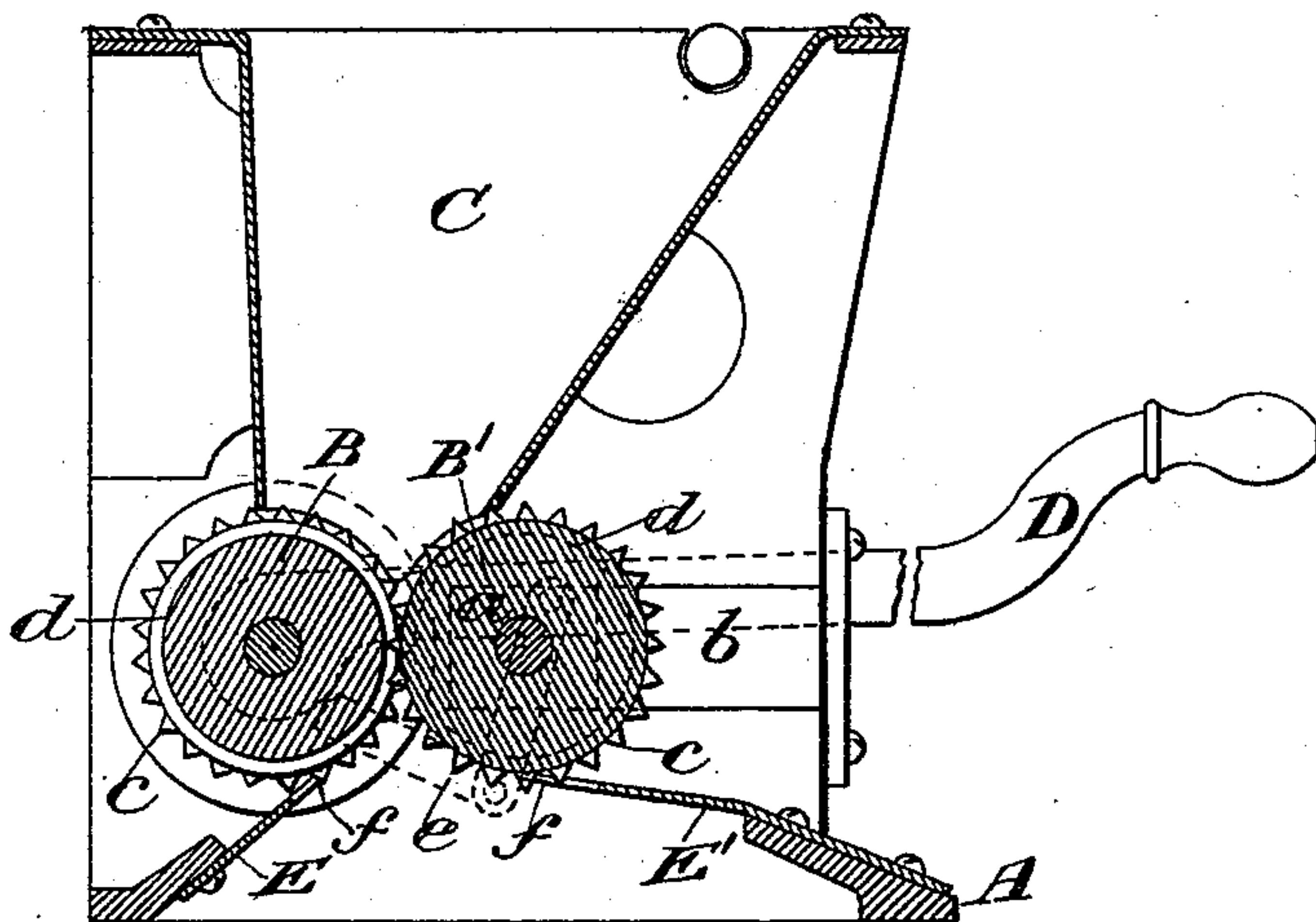
(No Model.)

H. C. SERGEANT.  
TICKET CANCELING APPARATUS.

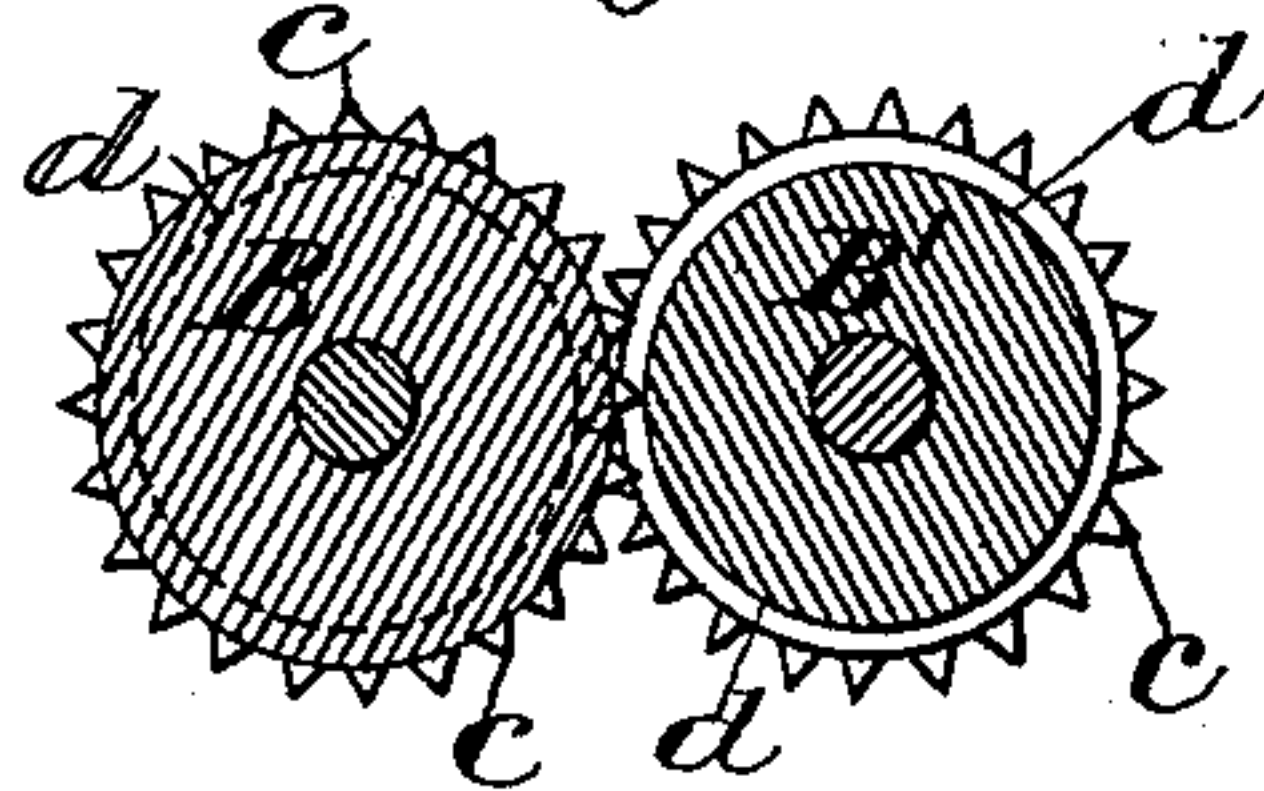
No. 528,696.

Patented Nov. 6, 1894.

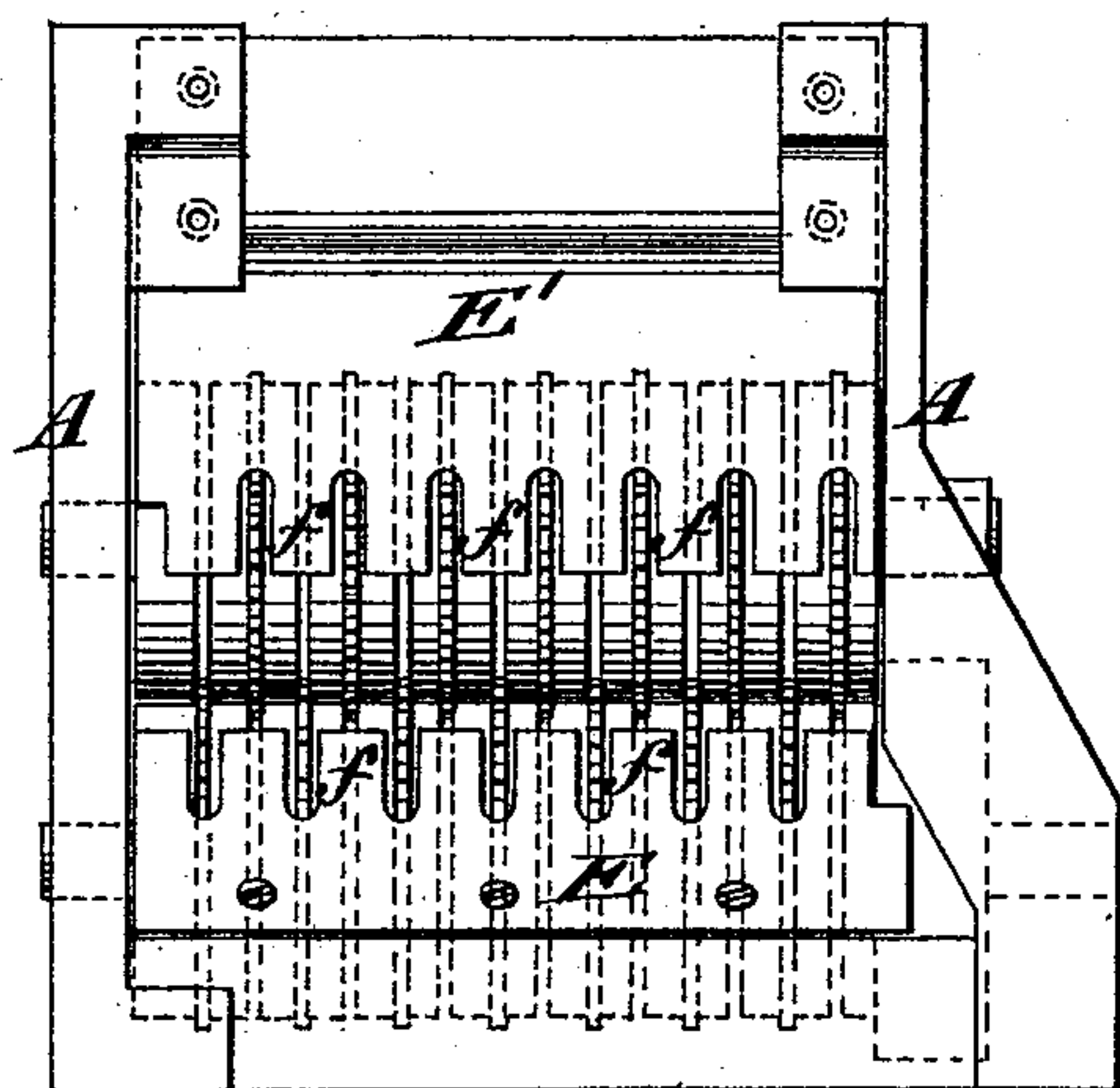
*Fig.1.*



*Fig.3.*



*Fig. 2.*



*Witnesses:-*

George Barry.

V. B. Leonard.

*Inventor:*—

Henry C. Sergeant

by attorneys

Brown Howard



# UNITED STATES PATENT OFFICE.

HENRY C. SERGEANT, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO THE  
INGERSOLL-SERGEANT DRILL COMPANY, OF NEW YORK, N. Y.

## TICKET-CANCELING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 528,696, dated November 6, 1894.

Application filed January 18, 1894. Serial No. 497,250. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY C. SERGEANT, of Westfield, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Ticket-Canceling Apparatus, of which the following is a specification.

This invention relates to ticket canceling apparatus in which the canceling device consists of two rolls of which teeth on one roll take into grooves of the other. Such canceling device is disclosed in United States Letters Patent No. 221,943, dated November 25, 1879, but as therein shown only one roll is constructed with teeth, the other roll having grooves into which the said teeth work but being otherwise smooth. These two rolls only punch or puncture the tickets on one side and the consequence is that when, as often happens, two or more tickets fall together between them one or more tickets which come nearest the smooth roll will be scarcely, if at all, defaced and not canceled sufficiently to prevent their being used over again.

The object of my invention is to remedy this defect and to effect a more certain and perfect cancellation notwithstanding that several tickets may fall together between the rolls; and to this end my invention consists principally in the construction of both rolls with both teeth and grooves which are respectively so arranged in the two rolls that the teeth of each take into the grooves of the other, by which means I obtain a double canceling operation.

In the accompanying drawings Figure 1 represents a vertical section of as much of a canceling apparatus as is necessary to illustrate my invention. Fig. 2 represents an inverted plan corresponding with Fig. 1. Fig. 3 represents a transverse section of the two canceling rolls.

Similar letters of reference designate corresponding parts in all the figures.

A is an upright framing which contains the bearings for the two canceling rolls B B'. The bearings for the roll B' are supposed to consist of sliding boxes a one of which is shown in dotted outline in Fig. 1 and behind which are placed india rubber springs b which tend to press the roll B' toward the roll B but

permit B' to yield to the passage of tickets between it and B.

Each of the two rolls B B' has upon it several circumferential rows of teeth c and has provided in it a series of circumferential grooves d alternating with the rows of teeth, the said teeth and grooves of the two rolls being so arranged that the teeth of one roll will take into the grooves of the other. This relation of the teeth and grooves is visible in Fig. 2 and is also shown in Figs. 1 and 3, the section Fig. 1 being taken through the teeth of B' and the grooves of B and the section Fig. 3 being taken through the teeth of B and the grooves of B'.

C is a hopper arranged above the rolls for conducting the tickets to the rolls. D is a hand lever for turning the roll B by any suitable intermediate mechanism, such as a clutch e, like that described in Patent No. 221,943, hereinbefore referred to, which being of a well known kind needs no particular description here. The roll B' may be turned by the friction produced by the tickets between it and the roll B.

E E' are stripping blades, one for each of the rolls B B'. These blades which extend the whole length of the rolls, are fastened to the lower part of the framing A under the rolls and are made with broad teeth f, the points or edges of which lie across the grooves of their respective roll and are kept by their own elasticity in contact with those portions of their respective rolls between the teeth and grooves as shown in Fig. 2, the purpose of the said stripping blades being to strip from the rolls any tickets that may be caught or held by their teeth.

The two rolls constructed as described with both teeth and grooves, puncture both sides of a ticket passing between them and when several tickets pass between them together they will be so punctured in opposite directions that even the middle ones will not escape puncture.

What I claim as my invention is—

1. The combination in a canceling apparatus of two rolls having circumferential rows of teeth and grooves alternating with said rows of teeth the said teeth and grooves being

relatively so arranged in the two rolls that the teeth of each take into the grooves of the other substantially as herein set forth.

5 2. The combination of the two rolls having circumferential rows of teeth and circumferential grooves alternating with said rows of teeth, and toothed stripping blades one for each roll having their teeth lying across the

grooves of their respective roll and in contact with those portions of the roll between the teeth and grooves substantially as herein set forth. 10

HENRY C. SERGEANT.

Witnesses:

FREDK. HAYNES,  
IRENE B. DECKER.