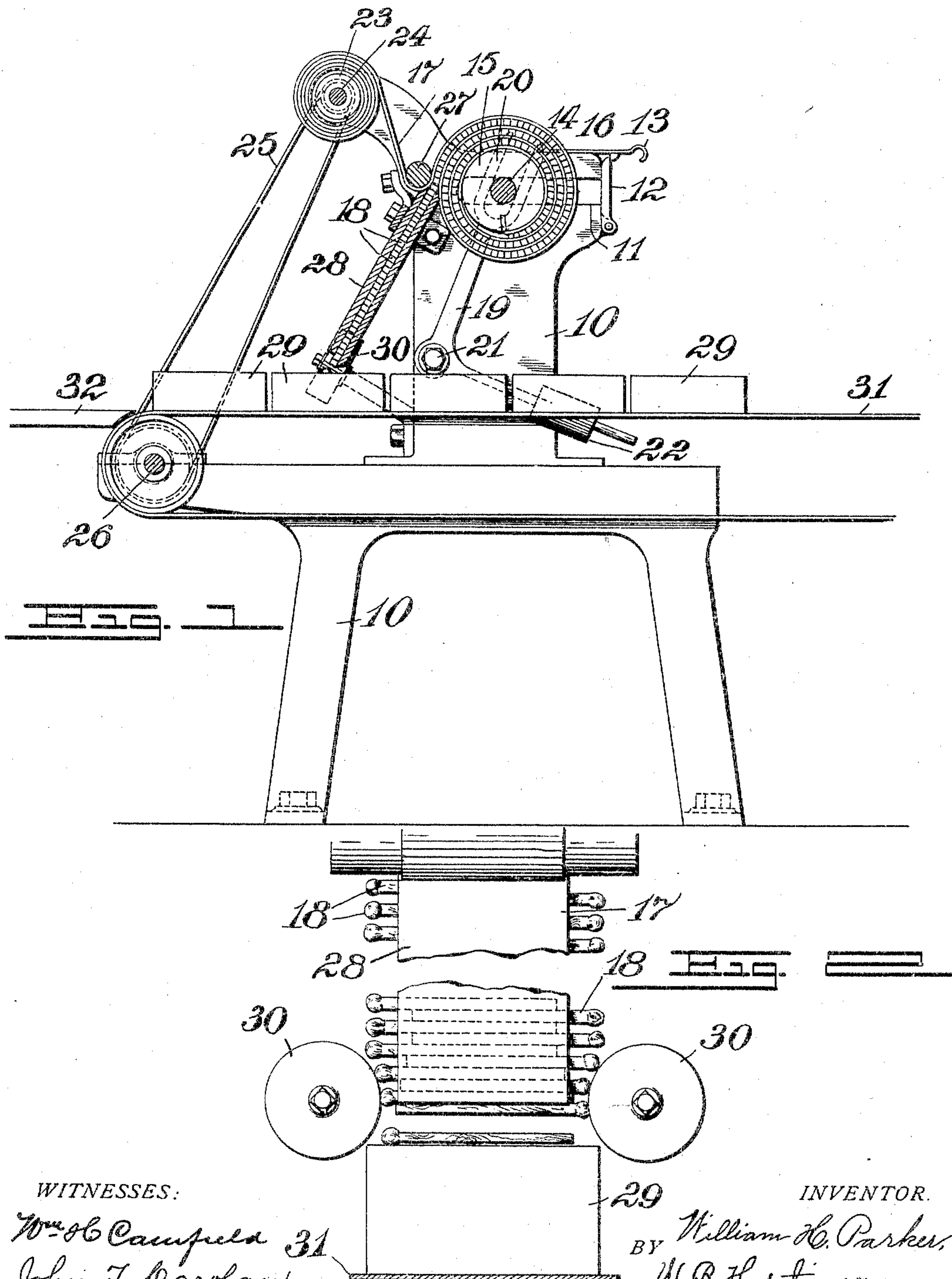


No. 780,057.

PATENTED JAN. 17, 1905.

W. H. PARKER.  
MACHINE FOR BOXING MATCHES.  
APPLICATION FILED MAR. 22, 1904.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## MACHINE FOR BOXING MATCHES.

SPECIFICATION forming part of Letters Patent No. 780,057, dated January 17, 1905.

Application filed March 22, 1904. Serial No. 199,453.

*To all whom it may concern:*

Be it known that I, WILLIAM H. PARKER, of Passaic, in the county of Passaic and State of New Jersey, have invented a new and Improved Machine for Boxing Matches, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of machines which are adapted to release matches from a coil, and particularly a coil where they are held in contact with each other, and deliver them into boxes ready for insertion in the ordinary shucks or wrappers of commerce.

The object of my invention is to produce a very simple machine for accomplishing the above purpose and to construct the machine so that the splints will be delivered nicely to the boxes and so that the belt of the coil will be left in condition to use over again.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a longitudinal sectional view, partly in elevation, of the machine embodying my invention, showing a match-coil in position to be unloaded and the boxes ready to receive the matches; and Fig. 2 is a detail cross-section through the tray or box carrying belt and shows in broken elevation the chute through which the matches are delivered to the boxes.

The machine-frame 10 may be of any usual kind, and its upper parts have on opposite sides slots 11, which for convenience are horizontal and which can be closed by a latch 12, having a spring-catch 13. This arrangement is to provide for easily placing in the slots and securing there the shaft 14, which carries the ordinary center 15, on which is carried the coil 16. Obviously this particular arrangement for carrying the coil is not essential, as any convenient means can be sub-

stituted. The coil is made up of the center 15, the belt 17, and the matches 18, which are rolled up in the belt. The slots 11 are to provide for the necessary movement of the coil, as it must travel back and forth to adapt itself to the chute 28, to be hereinafter referred to. In order that the movement of the coil may be easy and at proper tension, the shaft 14 is hung in the upper forked ends 20 of the bell-crank levers 19, which are pivoted at 21 and provided with suitable counterbalancing weights 22. In the drawings I have shown but one slot 11 and bell-crank lever 19; but it will be understood that these parts occur on both sides of the machine. When the belt 17 is unwound from the coil 16, it is rewound upon a center 23, which is carried on a convenient shaft 24, and the latter is driven by a belt 25, connecting with a shaft 26, and the latter can be driven in any suitable way. As the belt 17 is unwound it passes beneath a guide bar or roller 27, which is arranged at the mouth of an inclined chute 28, so that as the belt passes beneath the bar the matches 18 are caught by the chute and directed downward through it. It will be noticed that the chute is open on the sides, so that the match-heads cannot come in contact with anything, and they are therefore not likely to be ignited. It will also be observed that the matches and chute are arranged in such a way that the matches are in close contact at all times, so that they really form a continuous web. It is important that this arrangement should be preserved, because if the splints are spaced apart and then placed loosely in the chute they are likely to become choked or otherwise clogged therein; but by having the arrangement specified they are forced in a continuous web smoothly through the chute to the boxes below.

The boxes or trays 29 can be of any usual kind, and they are carried on an endless belt 31, which runs horizontally, or substantially so, beneath the chute 28. Near the bottom of the chute 28 and just above the tops of the boxes and on opposite sides thereof are the idle rollers 30, the distance between which is



slightly less than the distance between the opposite ends of the matches, so that as the matches drop or are forced through the chute they will engage the rollers and will be snug-  
5 gled up or pushed endwise, so as to drop nicely into the box. This movement, being arranged to take place just as the matches are discharged from the chute, is of such an easy nature and causes so little friction that there is no danger  
10 of igniting the matches. The belt 31 is kept supplied with trays or boxes 29, and as they are filled they are discharged at one end of the machine upon a suitable table 32.

It will be noticed that in the above arrangement  
15 the chute 28 is open at the sides, so that the match-heads project freely, and that the thickness of the chute is only such as to receive one match at any given point. These details are important, as it is largely these de-  
20 tails, in connection with the means for delivering the splints into the chute and for snug-  
gling them at the bottom, which constitute my invention.

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

1. A machine for boxing matches, comprising means for unwinding a coil of matches, a

chute open at the sides arranged to receive the matches as they are delivered from the coil, 30  
rollers arranged on opposite sides of the chute near the discharge end thereof to touch the matches and move them endwise, and a box-  
carrying belt movable below the chute.

2. The combination with a chute having 35  
open sides or edges, of means for delivering matches in a continuous web into and through the said chute with the matches arranged with their heads and butts alternating and with the heads protruding from both edges of the chute, 40  
and means for receiving the matches as they are discharged from the chute.

3. A machine for boxing matches, comprising a guide-chute constructed to engage the body portions of the matches and leave the 45  
heads free, means for delivering the matches in a continuous web into and through the chute with the matches arranged with their heads and butts alternating, and means for receiving the matches as they are discharged from 50  
the chute.

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Witnesses:

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