W. H. BUNDY.

TIME RECORDER.

APPLICATION FILED MAR. 2, 1908.

983,533.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.

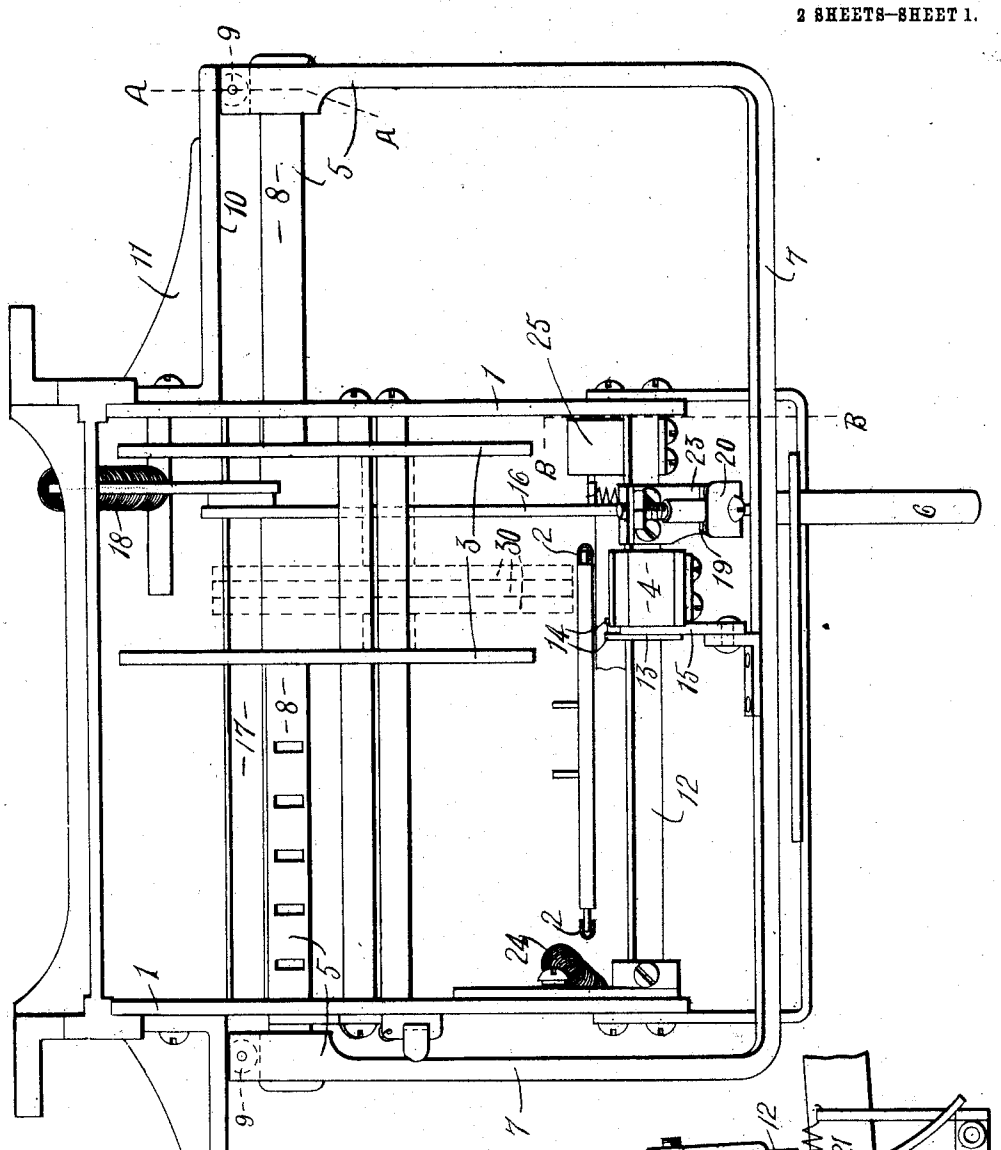

Fig. 1.

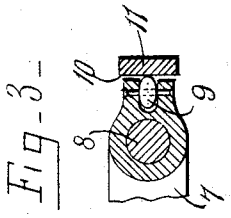

Fig. 3.

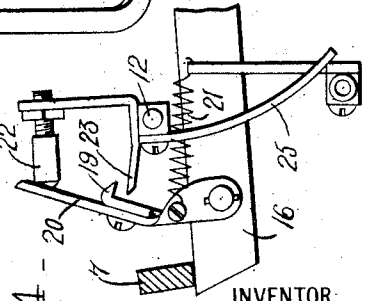

Fig. 4.

WITNESSES:

Chas. H. Young.

S. Davis.

INVENTOR

Willard H. Bundy

BY

Parsons Hall & Brooks

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W. H. BUNDY.

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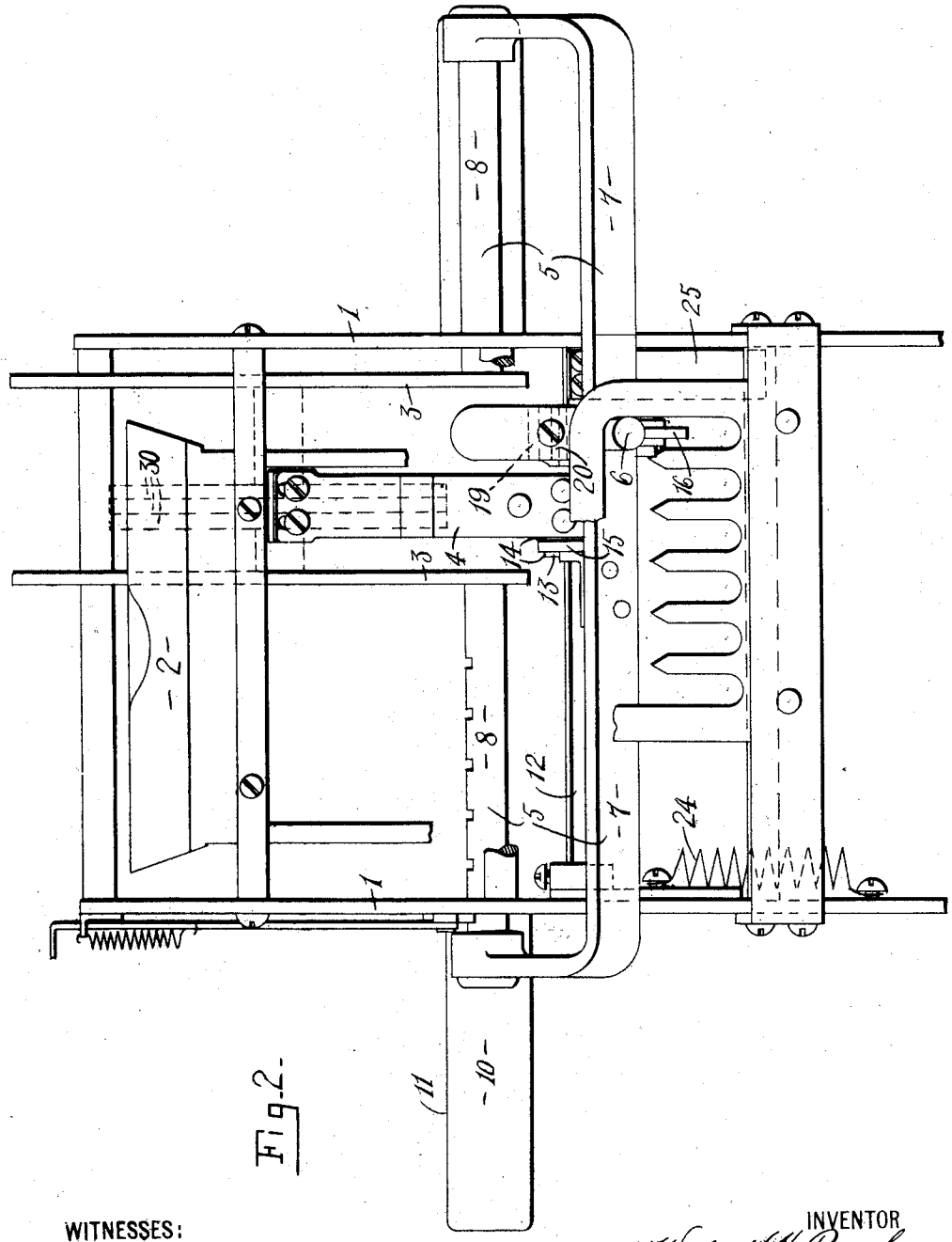

Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLARD H. BUNDY, OF SYRACUSE, NEW YORK, ASSIGNOR TO W. H. BUNDY RECORDING COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

TIME-RECORDER.

983,533. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed March 2, 1908. Serial No. 418,699.

To all whom it may concern:

Be it known that I, WILLARD H. BUNDY, of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Time-Recorder, of which the following is a specification.

My invention relates to time-recorders, and has for its object the production of a mechanism for supporting and printing upon cards, or other similar record sheets, which is particularly simple in construction and highly efficient in use.

To this end, the invention consists in the parts and the combinations and arrangements of parts to be hereinafter described and particularly pointed out in the claims.

In the accompanying drawings, which illustrate one exemplification of my invention, Figure 1 is a plan view of a part of a time-recorder embodying my invention. Fig. 2 is a front elevation of the same, and Figs. 3 and 4 are transverse sectional views taken, respectively, on lines A—A, and B—B, Fig. 1.

The invention includes, generally, marking mechanism and a card-receiver, one of these two parts being movable transversely of the other, and said marking mechanism including character-carrying wheels, inking ribbon mechanism, and a platen or hammer, either the character-carrying wheels or the platen having movement toward and from the other to effect the printing impression, a single operating member having movement in one direction for shifting the transversely movable part in a transverse direction, and having movement in another direction for actuating the part of the marking mechanism which is movable to effect the printing impression, and bearing surfaces extending in the direction of the first-named movement of said transversely movable part for holding the same against twisting, and thereby relieving the transversely movable part aforesaid from all twisting strain, especially when being moved by the operating member.

The parts of the machine with the exception of the mouth of the card-receiver and the engaging end of the operating member are preferably inclosed in the usual manner in a suitable casing, not illustrated, and as is customary in this class of recorders, a time-movement, not illustrated, is arranged in the upper part of the casing, the card-receiver, the marking mechanism and the operating member are supported in the lower part of the casing, and the time-movement is connected to the character-carrying wheels of the marking mechanism by a vertical flexible shaft.

The marking mechanism preferably includes marking wheels, a ribbon-mechanism, and a hammer or platen, all of these parts being slidably mounted in a suitable rigid frame 1, and being movable transversely of said frame, and of a suitable fixed card-receiver 2. The marking wheels 30 indicated by dotted lines, the gears for rotating the same from the vertical flexible shaft, and the ribbon-mechanism are carried by a suitable frame 3 comprising opposing plates spaced apart from each other. The hammer or platen 4 is designed to have, in addition to its transverse movement, a movement toward and from the marking wheels to effect the printing upon a card held in the receiver. As will be understood, the card-receiver may be so mounted that it can be shifted transversely, and in this event, the marking mechanism will preferably be fixed as to transverse movement.

The proper position of the marking mechanism transversely of the card-receiver and the action of the mechanism to strike the printing blow is obtained, in the illustrated exemplification of my invention, by the manipulation of a single member 5, comprising a handle 6 exposed exteriorly of the casing, a yoke 7, from the intermediate portion of which the handle 6 projects, and rigid bars 8 extending through opposing side plates forming part of the frame 1, and having their inner ends fixed to the frame 3 and their outer ends pivotally connected to the ends or branches of the yoke 7. Said yoke 7 is connected to the marking mechanism exteriorly of the frame 1, and is therefore of sufficient extent to entirely span or inclose such frame. The extremities of the ends or branches of the yoke carry antifriction bearing devices, as rollers 9 running in contact with flat bearing surfaces 10 provided by the front faces of brackets 11 which are rigidly secured to the side plates of the frame 1, and extend laterally therefrom in the direction of the transverse movement of the part 5. The extended bearing surfaces 10 effectually guide the part 5 and arrest any twisting tendency of the same, and thereby effectu-

ally prevent any twisting movement being imparted to the marking mechanism by the pressure put on the handle 6 in shifting the marking mechanism transversely.

The hammer 4 is slidably connected to a rock-shaft 12 of non-circular cross-section and is provided with a collar 13 having annular shoulders 14 which are engaged by a laterally shifting fork 15 pivotally connected at one end to the intermediate portion of the yoke 7, and having its other end engaged with opposing surfaces of the shoulders 14. The connection between the yoke 7 and the hammer 4 moves the latter lengthwise of the shaft 12, as the part 5 is shifted transversely, and also permits of the hammer moving freely in a direction at an angle to said transverse movement. The hammer 4 is actuated to strike the printing blow by any suitable mechanism operated from the part 5. The illustrated mechanism includes a lever 16 fixed to a rock-shaft 17 which is connected to a spring 18, tending to rock the shaft 17 and raise the front part of the lever 16 and the yoke 7 resting thereupon. The lever 16 carries a hook 19 provided upon an arm 20 connected to a spring 21 and normally engaged with a stop 22 mounted on the rock-shaft 12. Said hook 19 coacts with a shoulder 23 on the rock-shaft 12, which is normally held in the position illustrated in the drawings by a spring 24 connected to the frame 1 and by a yielding arm 25 carried by said rock-shaft and engaging a fixed part of the frame 1. Upon the depression of the yoke 7, the hook 19 is depressed and through its engagement with the shoulder 23 rocks the shaft 12 against the tension of the spring 24 until the hook 19 passes out of engagement with the shoulder 23, whereupon the rock-shaft 12 is returned by the spring 24 with sufficient power to cause the arm 25 to yield and permit the hammer to strike the printing blow.

The construction and operation of my time-recorder will now be readily understood upon reference to the foregoing description and the accompanying drawing, and it will be appreciated that more or less change may be made in the component parts thereof without departing from the spirit of my invention.

What I claim, is:—

1. In a time-recorder, a printing element, a card supporting element, one of said elements being shiftable transversely relatively to the other, an operating member movable in two directions at an angle to each other for shifting said one of the elements transversely and for effecting the printing action, and elongated bearing surfaces coöperating with the operating member and extending in the direction in which said member is movable for shifting said one of the elements transversely, substantially as and for the purpose described.

2. In a time-recorder and in combination, two elements, one a card-receiver, and the other marking mechanism including a hammer, one of the elements being movable transversely relatively to the other, and a member for effecting said transverse movement and the printing action, said member including a yoke, and bearing members coacting with the ends of the yoke, substantially as and for the purpose specified.

3. In a time-recorder and in combination, a card-receiver, marking mechanism, one of said parts being fixed as to transverse movement, the other part being movable transversely, and the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward the other to effect the printing action, a frame carrying the marking mechanism, an operating member movable in one direction for shifting the transversely movable part and movable in another direction for effecting the printing action, said operating member including a handle and a yoke, and bearing members secured to the frame and coacting with the yoke, substantially as and for the purpose set forth.

4. In a time-recorder and in combination, a card-receiver, marking mechanism, one of said parts being fixed as to transverse movement, the other part being movable transversely, and the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward the other to effect the printing action, an operating member movable in one direction for shifting the transversely movable part and movable in another direction for effecting the printing action, said operating member including a handle and a yoke, a frame supporting the card-receiver and the marking mechanism, and brackets extending laterally from the sides of the frame and provided with bearing surfaces coacting with the ends of the yoke, substantially as and for the purpose described.

5. In a time-recorder and in combination, a card-receiver, marking mechanism, one of said parts being fixed as to transverse movement, the other part being movable transversely, and the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward the other to effect the printing action, a frame carrying the marking mechanism including side plates, an operating member for shifting the transversely movable part and effecting the printing action, said operating member including a handle and a yoke, antifriction bearing devices at the ends of the yoke, and brackets

extending laterally from the side plates of the frame and provided with bearing surfaces coacting with the antifriction devices, substantially as and for the purpose specified.

6. In a time-recorder and in combination, two elements, one a card-receiver and the other a marking mechanism, one of these elements being movable transversely relatively to the other, and the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward and from the other to effect the printing action, a frame carrying the card-receiver and the marking mechanism and including side plates, an operating member movable in one direction for shifting said transversely movable part and movable in another direction for effecting the printing action, said operating member including a handle, a yoke, and bars extending through the side plates of the frame and pivotally connected to the yoke, the yoke spanning said frame, and bearing members secured to the frame and coacting with the yoke, substantially as and for the purpose set forth.

7. In a time-recorder and in combination, two elements, one a card-receiver and the other a marking mechanism, one of these elements being movable transversely relatively to the other, and the marking mechanism including marking wheels and a hammer movable toward and from the marking wheels for effecting the printing action, and an operating member movable in one direction for shifting the transversely movable element, and movable in another direction for operating the hammer, said operating member including a handle, a yoke carrying the same, and a connection between the yoke and the hammer, substantially as and for the purpose described.

8. In a time-recorder and in combination, two elements, one a card-receiver and the other a marking mechanism, one of these elements being movable transversely relatively to the other, and the marking mechanism including marking wheels and a hammer movable toward and from the marking wheels for effecting the printing action, an operating member movable in one direction for shifting the transversely movable element and movable in another direction for operating the hammer, said operating member including a handle, a yoke carrying the same, and a connection between the yoke and the hammer, and elongated bearing members secured to the frame and coacting with the ends of the yoke, substantially as and for the purpose specified.

9. In a time-recorder and in combination, a card-receiver, marking mechanism adjustable transversely relatively thereto, said mechanism including parts arranged at opposite sides of the car-receiver, one of said parts comprising a hammer, and a single operating member for moving the marking mechanism transversely and for effecting the printing movement of the hammer, the operating member including a handle, a yoke, means pivotally connected to the yoke and connected to the hammer, and bars pivotally connected to the ends of the yoke and fixedly secured to said part of the marking mechanism arranged opposite to the hammer, substantially as and for the purpose set forth.

10. In a workman's time-recorder and in combination, a card-receiver, marking mechanism movable transversely thereof, said mechanism including a part located at one side of the card-receiver and a hammer located at the opposite side thereof, a rocking shaft carrying the hammer, a single operating member for moving the marking mechanism transversely and for rocking said shaft and thereby causing the hammer to strike the printing blow, said operating member including a yoke, means having a movable connection at one end to the hammer and pivotally connected at its other end to the yoke, and bars connected at their inner ends to the part of the marking mechanism arranged opposite to the hammer and extending laterally therefrom and pivotally connected at their outer ends to the ends of the yoke, and laterally extending brackets having bearing surfaces coacting with the ends of the yoke, substantially as and for the purpose described.

11. In a time-recorder, a card-receiver, marking mechanism movable transversely thereof, the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward the other to effect the printing action, an operating member movable in one direction for shifting the transversely movable part and movable in another direction for effecting the printing action, said operating member including a handle, a yoke, antifriction bearing devices at the ends of the yoke, and bars connected at their inner ends to the part of the marking mechanism arranged opposite to the hammer and extending laterally therefrom and pivotally connected at their outer ends to the ends of the yoke, and brackets extending laterally from the sides of the frame and provided with bearing surfaces coacting with the antifriction devices, substantially as and for the purpose specified.

12. In a time-recorder, a card-receiver, marking mechanism movable transversely thereof, the marking mechanism including marking wheels and a hammer, one of said two parts of the marking mechanism being movable toward the other to effect the printing action, a frame supporting the card-re-

ceiver and the marking mechanism, said frame including side plates, an operating member movable in one direction for shifting the transversely movable part and movable in another direction for deflecting the printing action, said operating member including a handle, a yoke, antifriction bearing devices at the ends of the yoke, and bars guided in the side plates of the frame and connected at their inner ends to the part of the marking mechanism arranged opposite to the hammer and pivotally connected at their outer ends to the ends of the yoke, and brackets extending laterally from the side plates of the frame and provided with bearing surfaces coacting with the antifriction devices, substantially as and for the purpose set forth.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York. this 25th day of February, 1908.

WILLARD H. BUNDY.

Witnesses:
S. DAVIS,
E. K. SEEMILLER.