F. H. ARMSTRONG.

RECORDING AND DUPLICATING MACHINE.

APPLICATION FILED APR. 5, 1912.

1,147,592.

Patented July 20, 1915.

2 SHEETS—SHEET 1.

Fig. 1

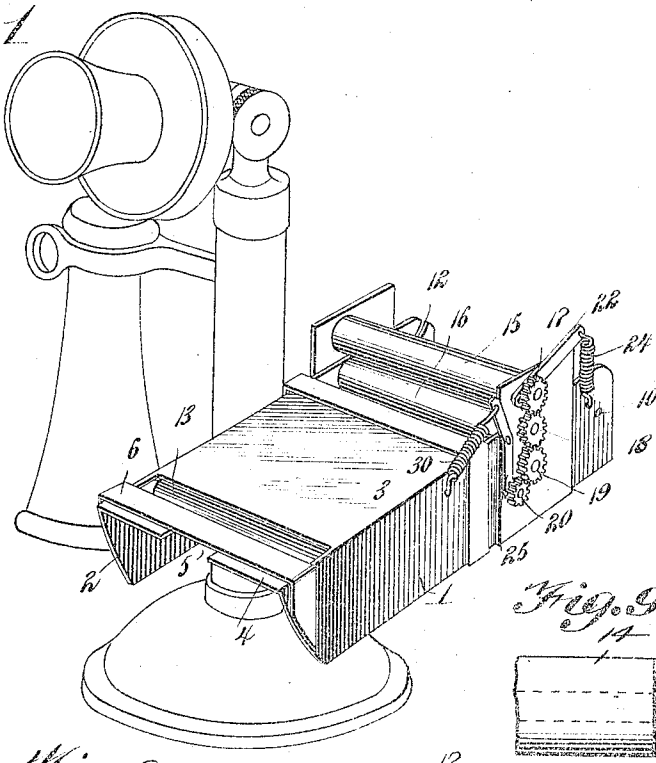


Fig. 10.

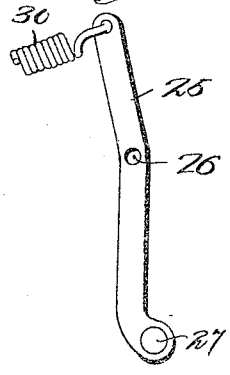


Fig. 9.

Fig. 2

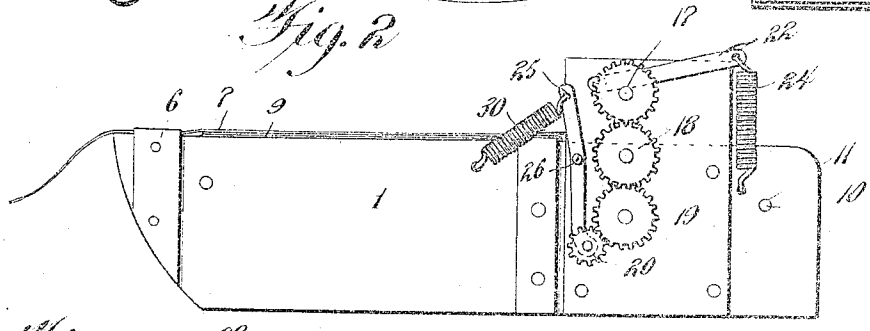
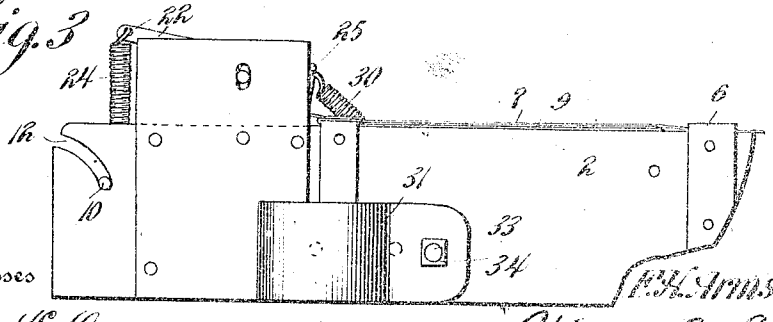


Fig. 3



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4

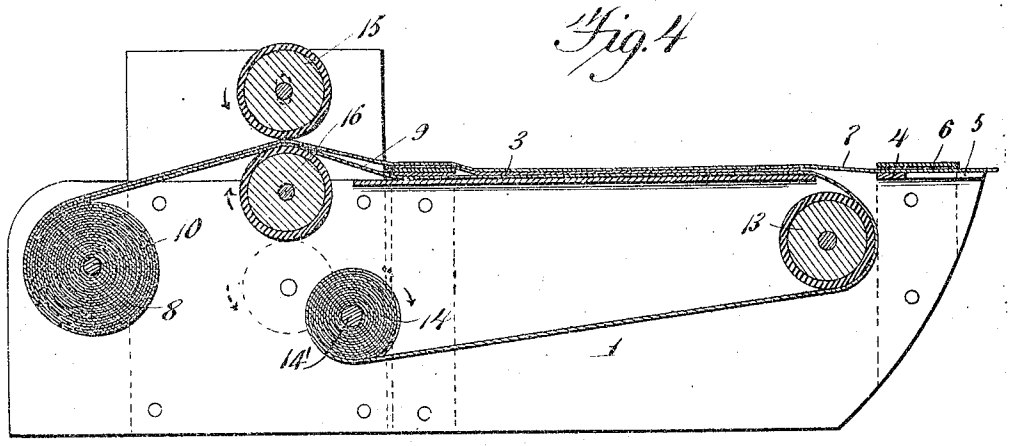


Fig. 5

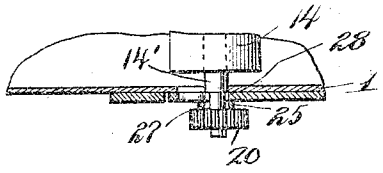


Fig. 6

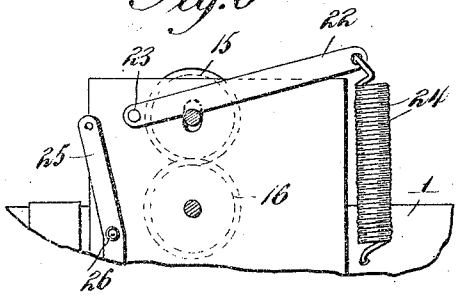


Fig. 7

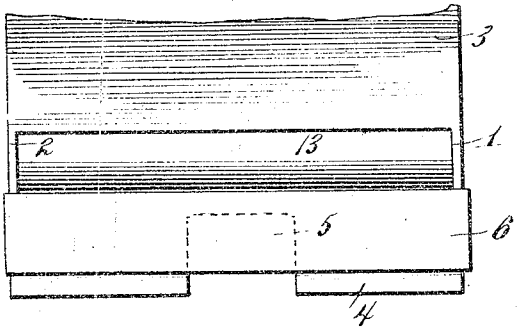
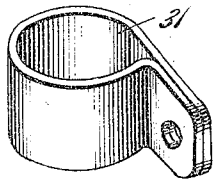


Fig. 8



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UNITED STATES PATENT OFFICE.

FRANCIS HARVEY ARMSTRONG, OF BROWNWOOD, TEXAS.

RECORDING AND DUPLICATING MACHINE.

1,147,392. Specification of Letters Patent. Patented July 20, 1915.

Application filed April 5, 1912. Serial No. 686,622.

To all whom it may concern:

Be it known that I, FRANCIS H. ARMSTRONG, a citizen of the United States, residing at Brownwood, in the county of Brown and State of Texas, have invented new and useful Improvements in Recording and Duplicating Machines, of which the following is a specification.

This invention relates to recording and duplicating machines, the object in view being to provide a machine in which use is made of a plurality of sheets or webs, one of which is designed for the original sheet and another or others for copies to be produced thereon by the interposition of one or more carbon sheets or their equivalent, combined with means whereby the copy sheet is wound upon a take-up roller actuated by the pull on the original or top sheet upon which the impression is made by a pen, pencil or other writing device.

A further object of the invention is to render the receiving or take-up roller detachable in order to enable the copy or record of the work for a certain period to be removed as may be found necessary or expedient.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the claim hereunto appended.

In the accompanying drawings, Figure 1 is a perspective view of the machine applied to a telephone. Fig. 2 is a side elevation of the machine looking toward the gear side thereof. Fig. 3 is a side elevation looking toward the opposite side of the machine. Fig. 4 is a vertical longitudinal section through the machine. Fig. 5 is a detail section showing the latch in locking engagement with the take-up roller. Fig. 6 is a detail section taken adjacent to the tension device. Fig. 7 is a detail plan view showing the guide slot through which the original sheet is drawn. Fig. 8 is a detail view showing the clip for fastening the device to a telephone. Fig. 9 is a detail view of one end of the take-up roller, its shaft and gear wheel. Fig. 10 is a detail view of the latch lever for the shaft of the take-up roller.

The bill machine contemplated in this invention comprises essentially a frame or casing which in the preferred embodiment of this invention is shown as comprising the opposite side plates 1 and 2, the same being connected at the top by a plate 3 forming the writing bed or table of the machine. The side plates are further connected at the end adjacent to the writer by a cross bar 4 provided with a finger notch 5, while over and above the bar 4 there is extended a guide bar 6 between which and the bar 4 the original sheet shown at 7 is adapted to be drawn.

8 designates the supply roller upon which the original and copy sheets are wound, 9 designating the copy sheet which is wound within and beneath the original sheet 7. The shaft 10 of the roller 8 is mounted at one end in a hole 11 in one of the side plates and at its opposite end is received in a slot 12 thus adapting said supply roller to be detached from the machine for refilling or for replacement by another roll of sheets. At the front of the bed there is arranged a guide roller 13 around which the copy sheet passes after traversing the table or writing bed, the original sheet being drawn under the guide 6, above described.

After passing around the guide roller 13, the copy sheet extends back to a take-up roller 14 to which the end of the sheet may be secured in any convenient manner, the said take-up roller being actuated by means hereinafter particularly described. 15 and 16 designate feed rollers arranged one above the other and above and below the original and copy sheets passing over the writing bed and before said sheets reach the bed. The rollers 15 and 16 are preferably composed of rubber or faced with rubber so as to obtain the requisite frictional hold on the original and copy sheets and are geared together by gear wheels 17 and 18 mounted on the shafts thereof, as shown in Fig. 2.

The wheel 18 of the lower feed roller meshes with an idler gear wheel 19 which in turn meshes with a wheel 20 on the shaft of the take-up roller. The feed rollers are actuated by the original sheet as it is drawn forward across the writing bed and therefore, by means of the train of gearing just hereinbefore described, motion is imparted to the take-up roller so that the copy sheet is wound thereon after passing around the guide roller 13.

In writing upon the original or top sheet, a copy is made on the second or lower sheet by reason of the presence of an interposed

sheet of carbon paper 21 or its equivalent fastened along one edge to the machine in any convenient manner.

The feed rollers are held toward one another with a yielding pressure by means of a tension lever 22 pivotally connected at one end as at 23 to the machine frame and having connected to its opposite end a tension spring 24 having its other end connected with the machine frame, said lever bearing against the shaft of the upper feed roller so as to press the upper feed roller firmly toward the lower feed roller. The bearing hole for the shaft of the upper feed roller is vertically elongated to permit the action just described. After the copy sheet has been wound upon the take-up roller, the copy sheet may be removed by sliding the shaft of the take-up roller endwise out of the frame in which it is supported, this being accomplished by rocking a latch lever 25 pivoted at 26 on one of the side plates of the machine frame and having a hole 27 through which the shaft of the take-up roller is adapted to be withdrawn, carrying with it the gear wheel 20.

The shaft 14′ of the take-up roller is reduced as shown at 28 to form a shoulder 28′ adapted to be engaged by the lower extremity of the latch lever, and the latch lever is held in locking engagement with said shoulder by means of a spring 30 having one end connected to the upper arm of the latch lever and the other end attached to the frame of the machine.

In order to mount the device as a whole on a telephone, a spring clip 31 is secured to the side plate 2 of the machine frame by means of a bolt or rivet 33 or its equivalent, said clip being substantially U-shaped and having the ends thereof connected together by a clamping bolt 34. This enables the device to be clamped upon the standard of a desk telephone or on the transmitter arm of a wall telephone where it will be in convenient reach of the operator when taking orders over the telephone.

I claim:—

A recording and duplicating machine, comprising a frame, a paper supporting bed, manifolding means, a supply roller on which the original and copy sheets are wound, a take-up roller on which the copy sheet is adapted to be wound, feed rollers actuated by the original sheet and geared to said take-up roller whereby the take up roller is actuated by a pull on the original sheet, guiding means whereby both sheets are carried over the paper supporting bed and the copy sheet directed to the take-up roller, a shaft for the take-up roller removable through a longitudinal bore in said roller and through an opening in the side of the frame, said shaft being reduced to form a shoulder near one end thereof, a latch lever pivoted on the frame and having an opening of larger diameter than said shaft permitting the shaft to be drawn through said opening, and a spring acting on said latch lever to hold the same in locking engagement with the shoulder of said shaft.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS HARVEY ARMSTRONG.

Witnesses:
BERT E. HURLBUT, Jr.,
L. S. BRINDLEY.