July 30, 1929. A. M. TESTA 1,722,867

RULING DEVICE

Filed April 13, 1928

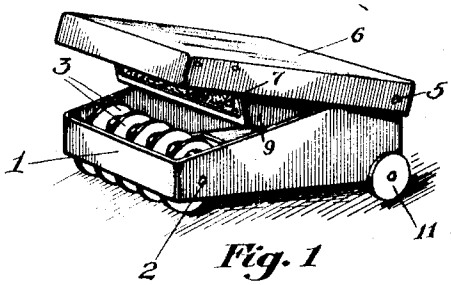


Fig. 1

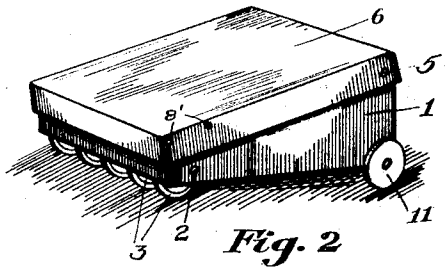


Fig. 2

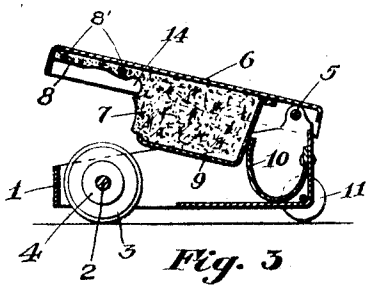


Fig. 3

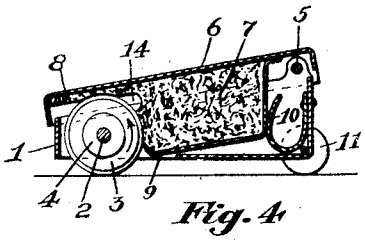


Fig. 4

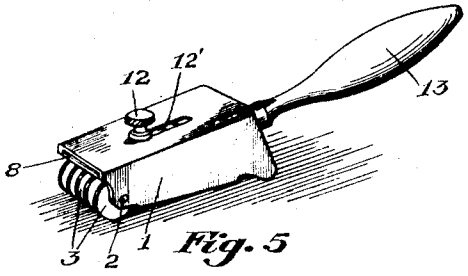


Fig. 5

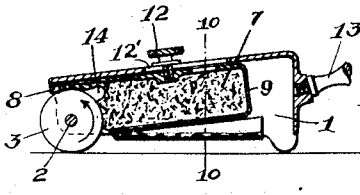


Fig. 6

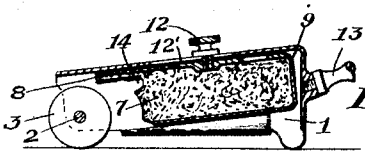


Fig. 7

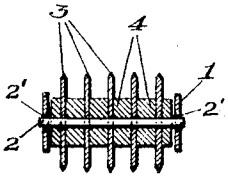


Fig. 8

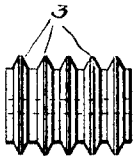


Fig. 9

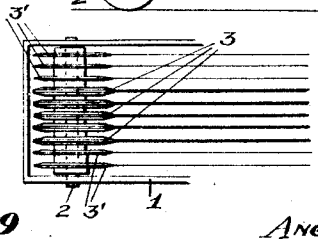


Fig. 11

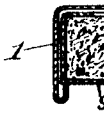


Fig. 10

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UNITED STATES PATENT OFFICE.

ANGELO M. TESTA, OF AUBURN, MAINE, ASSIGNOR TO EVELYN B. TESTA, OF AUBURN, MAINE.

RULING DEVICE.

Application filed April 13, 1928. Serial No. 269,675.

My invention relates to improvements in line ruling implements and I have for a general object the making of a practical device capable of imprinting straight, uniform and parallel lines on paper sheets.

While my device is susceptible of a wide range of uses in connection with line ruling, a specific application for which it is particularly adapted is the ruling of the staffs on sheet music.

The duties of a professional musician or a teacher of music often necessitate the recording of a musical composition, either in the form of a copy or as an original work, and it is much less costly and considerably more convenient for these individuals to always have at hand an implement by means of which accurately ruled staffs may be quickly and easily made on a sheet, preparatory to transcribing the proper musical characters thereon, than to buy printed sheets.

The ruling of the staffs may be extended in compass to include ledger lines, above and below—these latter, when desired, being simultaneously ruled with the regular staff lines which preferably should be somewhat more prominent to avoid possible confusion. To accomplish this it is simply necessary to arrange additional thin faced inking discs on either side of the bank of heavy marking staff ruling discs.

My present invention contemplates the combination of a box or frame carrying a set of revoluble discs contacting, when in use, with a duplex pad composed of a main ink-reservoir pad and a wiper-pad integral therewith. It also provides means for the withdrawal of the pads from contact with the inking discs on the completion of each ruling job for the purpose of properly cleaning the latter.

A very important object which I have sought in my invention is to procure even or uniform lines and this I accomplish by means of the novel construction of the inking pad.

Freshly inked pads of any description usually distribute an over-supply of the ink to the marking implement, causing coarse and bulrred lines or figures to be made.

To obviate this difficulty in my ruling device I provide in conjunction with and in addition to the main ink-reservoir pad another which I call the wiper-pad which serves to rub off the surplus ink from the inking discs so that only a thin coating remains thereon. Thus when the discs contact with the paper sheet a clean-cut impression is made.

The device is susceptible of various structural forms, two only of which I have disclosed in the accompanying drawings. I desire it to be understood, therefore, that I do not restrict myself to the precise mechanical construction therein shown but shall feel at liberty to adopt such modifications as seem desirable provided always that any deviations from the forms illustrated and described shall be consistent with the meaning and intent of the invention and be coextensive with the subjoined claims.

In the drawing,—

Figs. 1 and 2 are perspective views of one form of the device showing it, respectively, in inoperative and operative position;

Figs. 3 and 4 are, respectively, central, longitudinal sectional elevations of the parts shown in Figs. 1 & 2;

Fig. 5 is a perspective view of a modified form of the device;

Figs. 6 and 7 show, respectively, central, longitudinal sectional elevations of the form illustrated in Fig. 5 in operative and inoperative positions;

Figs. 8 and 9 show two different methods of constructing the inking discs;

Fig. 10 is a transverse sectional elevation taken on line 10—10, Fig. 6, and

Fig. 11 shows a combination set of staff and ledger line inking discs with a facsimile of the ruling.

Similar parts are identified by like reference characters in all the different views of the drawing.

Referring to Figs. 1, 2, 3 and 4, 1 represents the box or frame of the ruling device, journalled at one end of which, on the shaft 2, are a plurality of inking discs 3 which may be of any desired number, but as illustrated and as would generally be used for staff ruling purposes there are five.

These discs can be made from a solid bar as seen in Fig. 9, where the outer portions only of the discs are formed, or they can be fabricated, as illustrated in Fig. 8, in which case there is provided a spacing collar between each of the two adjacent discs—the spacers being of a length conformable to the desired distance between the ruled lines.

The discs may also be made with hubs which serve as a substitute for the spacing collars 4. The shaft 2 is preferably made a tight drive fit in the collars and discs and rotatable in bearings 2′ in the frame 1.

Pivotally connected to one end of the frame 1, at 5, is a pad carrier 6 within which is the ink reservoir pad 7 and the wiper tail pad 8, the two pads being integrally formed.

Any suitable means may be employed to support the wiper tail pad and prevent its displacement from the pad carrier,—as the small pins 8′ passing through the pad and through the sides of the carrier.

Secured to the frame 1 and contacting with the wall of the ink reservoir pad housing 9 is a spring 10 which normally holds the pads out of engagement with the inking discs 3, making it possible to thoroughly clean the latter after the completion of each ruling job.

To provide better guiding facilities for the ruling device as it is pushed along the sheet being ruled, I supply the thin faced wheels 11 which greatly assist in keeping the machine to a straight line movement.

Fig. 5 shows an alternative design of ruling device. In this model the inking reservoir housing 9 is slidably and adjustably mounted within the frame 1,—the thumbscrew 12, operating in the slot 12′ clamping the reservoir either in operative position (see Fig. 6) or in inoperative position (see Fig. 7). A handle 13 is convenient for manipulating the device.

It is the usual practice in delineating musical composition to rule the five lines of the staff only and insert the ledger lines wherever the notes reach above or below the staff lines. I have illustrated in Fig. 11 a style of ruling incorporating both ledger and staff lines which, with my device, may be drawn simultaneously. The result is accomplished by adding the desired number of ledger line discs having very narrow faces to each side of the bank of broad faced staff line discs and operating the ruling device as ordinarily used. A somewhat wider frame will, of course, be necessary.

I lay great stress on the novel construction of my inking elements in the device and consider them the most important of any in the combination of parts.

It is a well known fact that newly inked pads liberate an over-supply of ink to the marking implement, causing the lines or characters to be blurred or irregular.

In my present invention I employ what might be termed a duplex pad so far as its action is concerned, although in reality it is but a single piece.

The main supply for ink is embodied in the reservoir pad 7 from which is delivered the ink to the discs 3. Should a greater quantity of ink than is desirable be drawn on to the discs the wiper tail pad 8 scrapes the surplus off and leaves a thin film which, as the discs rotate, is transferred to the paper sheet in a well defined and clear line.

This surplus ink, instead of being wholly absorbed by the wiper pad, collects on the entering end of it and is finally taken up again by the reservoir pad and re-passed to the discs.

The last contact of any portion of the periphery of the discs with the inking elements, just previous to its contact with the paper sheet, is with the wiper pad, which latter I preferably make somewhat more solid and homogeneous than the portion which primarily supplies the ink to the discs. Due to its compact nature this wiper pad is better able to resist without absorbing the over-supply of ink although it is not so dense as to be impervious to or incapable of absorbing a sufficient quantity to make it pliable and in fit condition to uniformly moisten the contacting surfaces of the discs.

It will be noticed that a pocket 14 provides an interruption in the continuity of contact of the supply and wiper pad surfaces with the discs.

This spacing of the two disc-contacting surfaces of the inking elements prevents any great amount of ink being taken up by the wiper portion through direct absorption from the reservoir part of the pad and assists the wiper in fulfilling its function of checking rather than augmenting the amount of ink finally deposited on the discs to be passed on to the paper sheet in the form of imprinted lines.

In practical work the device has proven to be a very useful and convenient implement for the purpose for which it was designed— especially desirable, in the form presented, for teachers and scholars in the musical profession but equally effective and satisfactory in many other instances where straight line ruling requires to be done.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a device of the character described comprising a frame, a plurality of discs revolubly mounted in said frame and depending for a spaced distance below the bottom thereof, a carrier pivotally connected to said frame, an ink pad disposed within said carrier, said pad including a main portion constituting a repository for ink and an extended tail portion integral therewith but of lesser volume and to constitute a wiper, both portions of said pad adapted to engage said discs at separated portions of their peripheral surfaces.

2. In a device of the character described comprising a frame, a shaft journalled in said frame, a disc on said shaft adapted to rotate in said frame, a pad carrier pivotally

connected to said frame, a pad in said carrier adapted to hold a quantity of ink, a tail portion on said pad of lesser thickness than the main ink-holding portion thereof, means whereby the said ink-holding portion and the said tail portion of said pad may be brought simultaneously into engagement with said disc at respectively separated portions of the peripheral surface thereof, and means to hold said pad in separated relation to said disc.

3. A ruling device comprising in combination a frame, a shaft journalled in said frame, a plurality of revoluble discs on said shaft extending for a spaced distance below the bottom of said frame, supporting wheels on said frame at the end opposite that on which said shaft is journalled, a pad carrier pivotally mounted on one end of said frame, a pad housing on said carrier, a liquid-absorbing pad disposed within said pad housing, an extended tail portion on and integral with said pad, said tail portion being of lesser and denser volume than the main portion of said pad, means whereby both portions of said pad may be brought, simultaneously, into engagement with said discs at respectively separated portions of the peripheral surfaces thereof, and means to hold said pad disengaged from said discs.

In testimony whereof I affix my signature.

ANGELO M. TESTA.