

UNITED STATES PATENT OFFICE.

GUSTAV STERN, OF BIELEFELD, GERMANY.

MOISTENING-CLOTH FOR COPYING WRITINGS.

No. 795,943.

Specification of Letters Patent.

Patented Aug. 1, 1905.

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To all whom it may concern:

Be it known that I, GUSTAV STERN, manufacturer, a subject of the German Emperor, residing at 9 Laerstrasse, in the city of Bielefeld, in the German Empire, have invented a certain new and useful Moistening-Cloth for Copying Writings, of which the following is a specification.

This invention has reference to moistening cloths or sheets such as are used for moistening the thin sheets of paper ordinarily employed for the copying of writings and the like, and it is distinguished from the sheets or cloths of this kind heretofore in use by the greater elasticity, increased durability and strength of the sheets thus produced, and by the possibility of obtaining thereby a better and more uniform moistening than with the sheets ordinarily employed. Like these, the sheets or cloths to which my invention refers comprise a thin sheet or plate of flexible elastic material impervious to moisture, such as a thin plate or sheet of rubber or caoutchouc which is coated on one or both sides with textile fabric. The plates or sheets of this kind as heretofore employed presented the inconvenience that the tissue was but very slightly elastic and did not yield sufficiently if subjected to pressure, so that it was unable to follow the expansion of the rubber sheet produced by the pressure of the copying-press and which increased gradually the longer the sheet was used, the rubber spreading laterally, while the tissue did not yield in the same manner, so that the tissue became torn very soon and left the rubber uncovered. Upon these uncovered places, however, the water did not adhere at all, so that spots were left where the writing or the like refused to copy at all. These difficulties were increased by the inconvenience that the textile fabric became unraveled on these torn places and also on the edges, which also interfered with the copying qualities of the sheet. Then the peculiar unevenness possessed by every textile fabric and which is caused by the crossing and interlacing of threads by the peculiar ridges in twilled and similar tissues caused an accumulation of moisture at the crossing-points of the threads and in the depressions between the ridges of the twill, so as to make it impossible to obtain a uniform distribution of the liquid over the entire surface of the sheet of paper to be moistened. Furthermore, the dust accumulates in these depressions, and es-

pecially in the case of moistened fabrics, so that in many cases it could not be removed at all or only with difficulty even where comparatively smooth linen or so-called "taffet" weaves were employed for the textile fabric used for coating the rubber sheets for moistening purposes. In view of all these difficulties the use of rubber sheets coated with textile fabric for the purpose of moistening the sheets of tissue-paper in the copying operation has been entirely discarded by many people and has been replaced by the old-fashioned way of moistening by means of a sponge or by a brush. It is, however, possible to do away with all the difficulties referred to in a very efficient manner by dispensing with the tissue proper for coating purposes and by substituting for it—that is to say, for the fabric consisting of warp and weft threads—a so-called "hosiery" fabric—that is to say, a so to speak "one-threaded" piece of manufacture produced by the interlacing of meshes—a so-called "tricot" fabric. This kind of fabric, as all hosiery and knitted fabrics, allows of being stretched to a very high degree, a property which the textile fabric produced from warp and weft does not possess, so that this kind of fabric—that is to say, hosiery and the like—shows very often even greater stretching and distending properties than rubber itself. This fabric is therefore admirably suited for avoiding the above-mentioned inconveniences caused by the frequent tearing of the tissue coating in consequence of the powerful expansion of the rubber sheet. The use of hosiery presents the further advantage that it will not unravel, as it consists of one length of thread only, so that no fibers or threads can get upon the wet sheet of paper, and the thereby occurring tearing of the same is avoided. By using hosiery it becomes also possible to obtain a more uniform distribution of the moisture, inasmuch as the moisture is sucked up quickly in the fabric on account of the very tightly arranged meshes, which present sections of one thread only, which fact also causes the moisture to spread readily by capillarity throughout the whole fabric. Still there is no possibility for the moisture to accumulate on certain places or for the dust to adhere, inasmuch as knitted or hosiery fabrics show a smooth surface as distinguished from the ordinary woven fabric. Any moisture that has been sucked up is also better and more efficiently retained than in the case of woven fabrics, so that it is possible

to produce a larger number of copies with one moistening only and by using a rubber sheet or plate which is coated on one or both sides with hosiery fabric or tricot than it was possible with the ordinary woven coats—for instance, such showing the ordinary “linen” weave. The hosiery coat itself may be impregnated with a solution of rubber or of similar material, and by this means it can be securely connected to the underlying rubber sheet.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A moistening copy-pad comprising a thin flexible sheet of rubber provided with coat-

ings of knitted fabric on its opposite faces, and means securing said coating to the sheet.

2. A moistening copy-pad for copying purposes comprising a rubber sheet provided with coatings of knitted fabric on its opposite faces and adhesive rubber securing said fabric upon the sheet.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

GUSTAV STERN.

Witnesses:

PETER LIEBER,
WILLIAM ESSENWEIN.