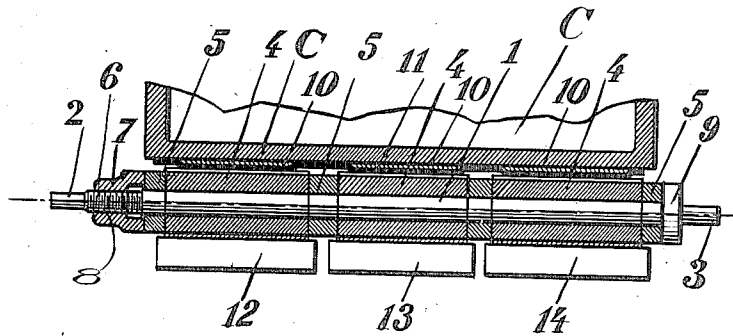


A. VALENTIN, J. ZERREISS & H. GEORGES.
 APPARATUS FOR PRINTING ENGRAVINGS IN INTAGLIO.

APPLICATION FILED MAY 29, 1911.

1,023,773.

Patented Apr. 16, 1912.



Witnesses:
 N. W. McCorm.
 B. M. Kaufman.

Inventors:
 Auguste Valentin,
 Jean Zerress,
 Henri Georges.
 Mason Francis Lawrence,
 Attorneys.

UNITED STATES PATENT OFFICE.

AUGUSTE VALENTIN, JEAN ZERREISS, AND HENRI GEORGES, OF PUTEAUX, FRANCE.

APPARATUS FOR PRINTING ENGRAVINGS IN INTAGLIO.

1,023,773.

Specification of Letters Patent.

Patented Apr. 16, 1912.

Application filed May 29, 1911. Serial No. 630,181.

To all whom it may concern:

Be it known that we, AUGUSTE VALENTIN, JEAN ZERREISS, and HENRI GEORGES, residing at Puteaux, France, have invented new and useful Improvements in Apparatus for Printing of Engravings in Intaglio, of which the following is a specification.

The printing of engravings in intaglio, in which scraper wiping is used, is usually effected from cylinders engraved in intaglio, and for direct impression it is not possible to engrave illustrations otherwise than on a single cylinder of greater length than the width of the paper, as the edges of the said cylinder would trace marks on the paper at the time of printing. On the other hand, when it is desired to print together engravings in intaglio and letterpress for printing illustrated matter, it frequently happens that the engravings are arranged in the text in a small number, and in a large number of cases there are only one or two engravings on the whole sheet of paper. Direct printing therefore necessitates in all cases the use of a cylinder of greater length than the width of the paper to be printed, which implies a delicate adjustment of a scraper on the whole length of the cylinder, even in those cases in which there is only one engraving on the said cylinder, which makes the operations long and expensive. Indirect printing enables the aforesaid disadvantages to be avoided. It is in fact possible to limit the pressure of the transferring blanket on the surface of the engraved portions, by suitably arranging under the blanket raised portions bearing only on the engravings, which makes it possible to use for the engraving, cylinders of smaller length than the width of the paper, and it even becomes possible to combine on one and the same mandrel one or more sleeves engraved in intaglio, the edges or joints of which will not leave any mark on the paper at the time of printing, and which will enable scrapers to be used which do not exceed the length of the engraved sleeves, which greatly simplifies the adjustment of the scrapers and renders the operations quicker and less expensive.

This invention relates to the use of such sleeves engraved in intaglio and also to a device enabling the said sleeves to be used for indirect impression of engravings in intaglio.

The figure is a transverse sectional view

through the impression roller and through the transfer roller showing in elevation the wipers.

The device comprises: 1. A steel mandrel 1 provided at each of its ends with trunnions 2 and 3 which are adapted to engage with the bearings of the machine. 2. A series of cylindrical steel sleeves 4 which are covered by electrolysis with a layer of copper, then trued and suitably polished to receive the engraving. 3. A series of rings 5 which are used for filling up the spaces that may be left between the engraved sleeves arranged on the mandrel.

The mandrel 1 consists of a steel spindle terminating at each of its ends in trunnions 2 and 3. This mandrel has also a screw-threaded portion 6 on which is engaged the nut 7 which is provided on its inner face with a hole 8 which enables the nut to be tightened against the engraved sleeves, while allowing the passage of the end of the mandrel 1. The mandrel 1 is provided at its other end with a collar 9 against which the engraved sleeves or the rings engage.

The cylindrical sleeves 4 are constructed of trued steel rings 4 which are adapted to slide with slight friction on the mandrel 1. These rings, covered with an electrolytic copper deposit, are perfectly polished and afterward engraved in intaglio by any known engraving process, the sleeves in question being afterward placed at the desired point of the mandrel 1.

The rings 5 are of less thickness than the sleeves, so as to enable the intervals separating the engraved sleeves to be filled when the positions of the said sleeves on the mandrel 1 are determined in accordance with a given arrangement.

The operation of the device will be readily understood.

First of all, the first engraved sleeve is placed on the mandrel 1, and its longitudinal position adjusted. Then the second sleeve is placed in position, then the others, the intervals being filled successively with a series of rings of suitable thickness. The nut 7 is then tightened, and will press against the engraved sleeves and keep them in place. The mandrel thus arranged is placed on the printing machine, and the sleeves rotated so as to bring the engravings into correct position, that is, so that they will be printed at the point which they have to occupy on the paper. When the position

is determined, the nut 7 is screwed home, and the engraved sleeves will be thus fixed on the mandrel. After having stuck, by glue for instance, to the cylinder C projections 5 or raised portions 10 constituted by a suitable thickness of paper or any other material, the blanket 11 is stretched on the cylinder, and the projections or raised portions will mark in relief on the surface of the said 10 blanket, the surfaces of the engravings. The scrapers 12, 13 and 14 are then adjusted in the usual manner, and the printing can be proceeded with.

We claim:—

15 In an apparatus for printing engravings

in intaglio, a mandrel, a plurality of engraved sleeves mounted upon the mandrel, a cylinder, an elastic blanket stretched upon the cylinder, and bodies interposed between the blanket and the cylinder providing projections upon the surface of the blanket. 20

In testimony whereof we affix our signature in presence of two witnesses.

AUGUSTE VALENTIN.
JEAN ZERREISS.
HENRI GEORGES.

Witnesses:

H. C. COXE,
JULIEN EAUVERNE.