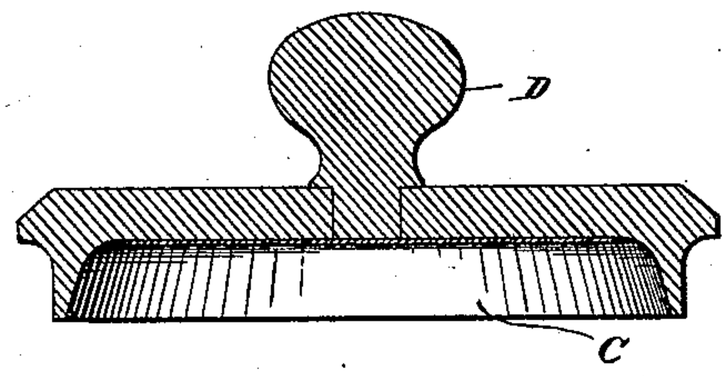
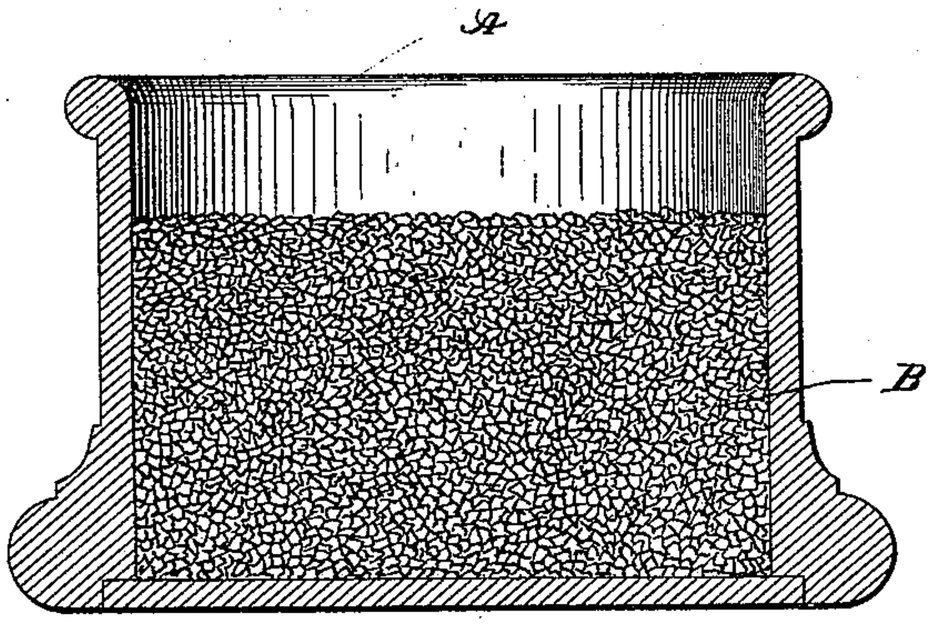
(Model.)

J. J. C. SMITH.

PEN CLEANER AND SUPPORT.

No. 433,878. Patented Aug. 5, 1890.





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PEN CLEANER AND SUPPORT.

SPECIFICATION forming part of Letters Patent No. 433,878, dated August 5, 1890.

Application filed September 15, 1888. Serial No. 285,456. (Model.)

To all whom it may concern:

Be it known that I, JOHN JOSEPH CHARLES SMITH, a citizen of the United States, residing at Passaic, county of Passaic, and State of New Jersey, have invented certain new and useful Improvements in Pen Cleaners and Supports, of which the following is a specification, reference being had to the accompanying drawing, which represents a form of receptacle for employing my invention.

The object of the invention is the production of a granular material made of a hard, insoluble, but porous and fluid-absorbing substance for the purpose of removing quickly and effectively fluid ink from pens.

The novelty of the invention consists in making a pen-wiper—or, more properly speaking, a pen-cleaner—from a hard, rigid, but porous material, which has the property of absorbing fluid rapidly by forming such material into small grains of uniform size.

The utility of the invention consists in the production of a substance by means of which ink can be removed from pens with greater convenience and in less time than can be done by any other means now in use.

The invention further consists in combining with such pen-cleaning material a covenient receptacle, whereby the said cleaning material, when suitably held and confined, is made to serve also as a pen-support, as hereinafter described.

Almost every one who uses pen and ink is fully aware of the annoyance in picking up a pen for writing and finding it full of dried ink. Such annoyance is not caused so much by neglect to wipe the pen as from the fact that pen-wipers now in use involve a certain inconvenience and loss of time in cleaning the pen. I find that to enable a hard and rigid, though porous, material to be used practically as a pen-cleaner in the best manner it must be formed into small grains. When in a granular form, filling a small receptacle of about four to eight cubic inches, the pen may be dipped in the aggregated grains. The grains being porous and of fluid-absorbing quality will quickly surround the pen closely and absorb the fluid ink. This fluid-absorbing or sucking action and a scouring or abrading action incident to the grittiness of the material co-act to quickly and completely rid the pen of ink, leaving the pen clean and dry, especially if the operation is repeated three or four times in rapid succession. Besides cleaning the pen, the aggregated grains filling the receptacle will serve as a convenient support, taking the place of the ordinary pen-rack. When the user of the pen ceases writing, he may place the pen in the grains, where it will stand convenient for use when needed.

I will now describe the manner in which I form such fluid-absorbing grains for the purpose mentioned. It is well known that hard burnt clay is porous and in considerable quantity absorbs any fluid very rapidly. Therefore I find it to be the best and cheapest material for the purpose, the more so because burnt clay is not affected by the action of the atmosphere. It is also of a gritty nature and capable of reduction to the proper granular condition, hereinafter specified. The grains, by reason of their gritty property, smooth the pen-point by friction when it is dipped into them. The clay I use is formed in brick shape and burned to about what is called "hard" brick. If burned too little, it crumbles too easily into fine powder, and if burned too much becomes glazy and loses the fiuid-absorbing property. Such burned clay I grind in a suitable mill into grains. When ground, I pass it through sundry grades of sieves to separate from it the fine and impalpable dust and powder and also the coarser particles, thereby obtaining grains of the predetermined nearly-uniform size. After this I subject the grains to a good washing process for the purpose of removing all dust and such fine particles which cling to the grains, because the sifting alone will not remove all the dust. After the washing process the grains are dried perfectly by heat and are then ready for use in the manner stated. It is of importance to free the grains from dust, because the dust will cling and adhere to the pen to a certain extent when the pen is dipped into the grains.

I find by careful experimental tests that the individual grains, to be effective, must be neither much greater nor less than a thickness which will pass through a No. 20 mesh of wire-gauze and be retained by a No. 30 mesh. This degree of granulation may be compared to that of what is known as "coarse gunpowder." Larger grains than the size here

given are found to leave too much pen-surface unacted on because out of contact with the absorptive agent, and also by reason of their inertia to mutilate the pen when struck by it. On the other hand, the lack of inertia and relatively-large superfices of the too-finely comminuted portions causes them to remain clinging to the pen.

Referring to the accompanying drawing, which forms a part of this specification, the figure therein represented is a vertical section of a receptacle containing my pen cleaning and holding material with the cover detached.

In the accompanying drawing, A is a box or receptacle filled with the granulated substance B, hereinbefore described, having lid or cover C, which is provided with a suitable knob or handle D.

I wish to have it understood that I do not confine myself to the mere use of grains made of burnt clay as a pen-cleaner, because there are other hard substances of porous and fluid-absorbing qualities which can be made in granular form—for example, pumice-stone, by reason of its porous and cellular character, possesses a capillary quality, which renders it very effective as a fluid-absorbing material. I am also aware that receptacles filled with such substances as emery-meal, sand, or fine lead shot have been used; but receptacles filled with such material serve, and are intended to serve, merely as a pen-rack. Neither sand, emery-meal, nor lead shot is porous or fluid-absorbing. If a pen wet with ink is placed in sand and left there long enough to dry the ink, the grains of sand adhere firmly to the pen. Lead shot will not adhere, but does not clean the pen. Porous grains of fluid-absorbing property will absorb the ink and clean the pen almost instantaneously.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. As a new article of manufacture, a porous and fluid-absorbing material for cleaning pens, consisting of a mass of loose and dry granules or particles of hard burnt clay, said granules or particles being of approximately the size hereinbefore described and free from dust and other impurities, substantially as described.

2. As a new article of manufacture for cleaning pens, a mass of loose and dry granules or particles of hard, dry, porous, and fluid-absorbing material, said granules or particles being of approximately the size hereinbefore described and free from dust and other impurities.

3. The combination, with a porous and fluid-absorbing material for cleaning pens, consisting of a mass of loose granules or particles of hard, dry, porous matter, said granules or particles being approximately the size hereinbefore described, and free from dust and other impurities, of a suitable receptacle for the material, whereby a pen-support as well as a pen-cleaner is provided, substantially as described.

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