(No Model.)

W. W. WALLACE & R. C. PENFIELD.

SANDING APPARATUS.

No. 483,088. Patented Sept. 20, 1892.

Fig. 2.

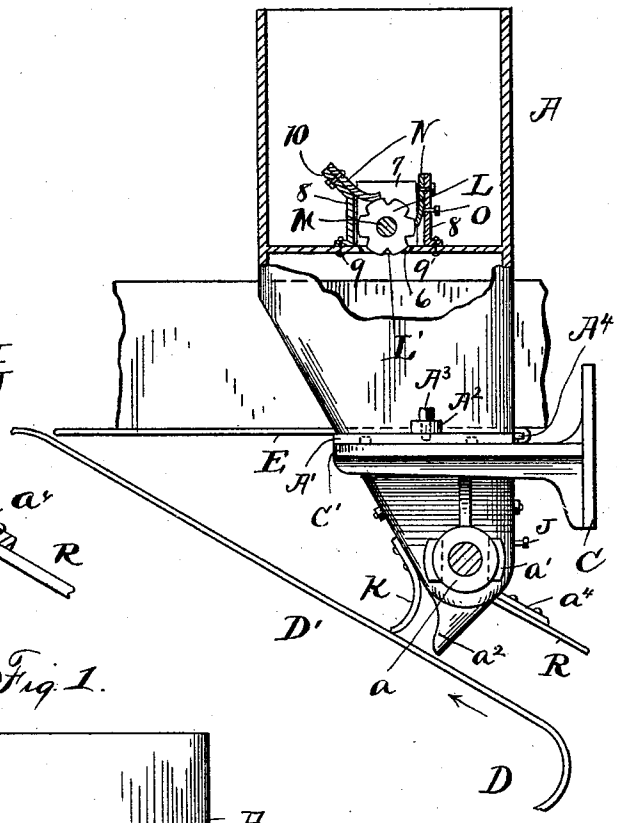


Fig. 3.

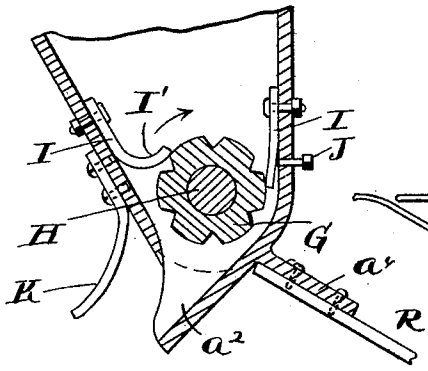
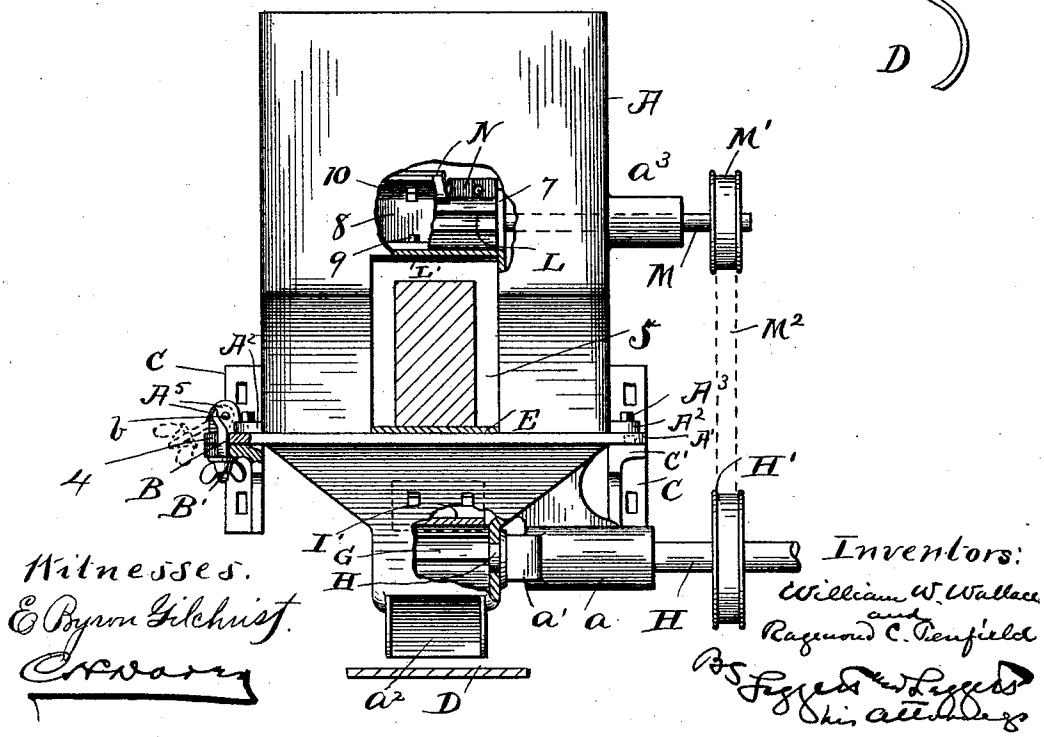


Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM W. WALLACE AND RAYMOND C. PENFIELD, OF WILLOUGHBY, OHIO, ASSIGNORS TO J. W. PENFIELD & SON, OF SAME PLACE.

SANDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 483,088, dated September 20, 1892.

Application filed March 4, 1892. Serial No. 423,736. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM W. WALLACE and RAYMOND C. PENFIELD, of Willoughby, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Sanding Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

Our invention relates to improvements in apparatus for sanding a bar of clay on its way from the pug-mill or brick-machine to the cut-off mechanism.

The common practice is to pile the green brick on their edges in ricks to dry preparatory to being placed in the kiln for burning. It is well known that bricks thus piled frequently adhere to each other, so as to fracture the surface thereof in separating the bricks, and to prevent this we have heretofore sanded the lower edge or surface of the bar of clay before it was cut into bricks. We have, however, found in practice that it is more desirable to sand the bar of clay on both upper and lower edges or surfaces; and our present invention consists, primarily, in mechanism for sanding the bar of clay on opposite edges or surfaces.

Our invention consists, also, in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation of our improved mechanism, partly in section. Fig. 2 is a side elevation showing the upper portion of the mechanism in central vertical section. Fig. 3 is a side elevation in central vertical section of the lower portion of the mechanism.

A represents a sand box or container, preferably hopper-shaped and made in two sections in open relation with each other, the lower section at its upper end and at either side having a laterally-projecting flange A′ and the upper section at its lower end and at either side having one or more laterally-projecting lugs A^2, that are bolted, as at A^3, to the adjacent flange A′ of the lower section, and the sand-container is preferably supported by brackets C, secured to the forward or discharging end of the pug-mill or brick-machine. (Not shown.) A preferable construction is shown in the drawings, wherein laterally-projecting flange A′ on one side of the lower section of the container is provided with recesses on its under side adapted to engage corresponding lugs on the horizontal arm C′ of the adjacent bracket C, whereas the laterally-projecting flange A′ on the other side of the lower section of the container has an upwardly-projecting lug or pair of lugs A^5, to which is pivoted, as at *b*, an eyebolt B, flange A′ and the horizontal arm of the respective bracket C being slotted vertically and inward from their edges for the reception and passage of the shank of bolt B, as shown at 4, Fig. 1, the slot being just large enough to receive the shank of the bolt, a nut, preferably a thumb-nut B′, being mounted upon the shank of the bolt below arm C′ of bracket C. By such construction, with the sand-container in position upon the brackets, by tightening nut B′ of bolt B the container is firmly held in such position, and by unloosening the nut and swinging bolt upon its pivotal bearing outward, as shown in dotted lines, Fig. 1, the sand-container can readily be removed from the brackets.

D represents an endless traveling apron that is supported on rollers (not shown) in any suitable and well-known manner, the apron having an inclined section D′ adjacent the sand box or container aforesaid and being adapted to travel in the direction indicated by the arrow and convey the sanded bar of clay to the cut-off mechanism. (Not shown.)

The sand box or container has an opening 5 located directly in front of the discharging-opening of the pug-mill or brick-machine and preferably centrally of the sand-container, said opening extending through the sand-container and being of ample size to accommodate the passage of the bar of clay from the pug-mill or brick-machine to endless apron D, the side and top walls of opening 5 being preferably integral with the upper section of the sand-container, a plate E being provided to bridge the space between the sand-container and apron D, as shown, such plate extending, preferably, through and constituting the bottom wall of opening 5 in the sand-con-

tainer and secured at the rear of the sand-container, preferably by bending said plate over the edge of a rearwardly-projecting lug or lugs A^4 at the back of the sand-container in any suitable manner, bridge E not, however, making contact with apron D.

As aforesaid, the sand-container is preferably hopper-shaped and operating within the lower end of the container, and extending substantially the entire internal width thereof is a fluted feed-roller G, the same being rigidly mounted on driving-shaft H, that has bearing in the side walls of said portion of the container and in a sleeve *a*, that is integral with one or more brackets or arms *a'*, extending laterally or outwardly from and preferably integral with the sand box or container, ample bearing-surface being thus provided for shaft H. By such construction it will be observed that there is not the least opportunity for sand to obtain ingress to sleeve *a*, that affords the principal bearing-surface for shaft H.

At either side of roller G is located a scraper or cut-off I, preferably of leather or other flexible material. These scrapers are fastened to the adjacent walls of the casing, the free end of the scraper located at the side of the roller opposite to the direction of rotation of the roller being bent upward, as at I', and bearing upon the periphery of the roller, whereas the free end of the scraper at the opposite side of the roller is merely adapted to make contact with the periphery of the roller and held in position, preferably, by means of a set-screw or bolt J. Scrapers I of course extend the entire length of the roller and are adapted to confine the discharge of sand to the quantity carried in the flutings or grooves of the roller.

The sand-container at its lower end below roller G terminates in a feed-spout a^2, that discharges onto inclined section D' of endless apron D, and a distributer K, preferably of leather and attached to the sand-container forward of the feed-spout, is provided, the free end of the distributer being located in such proximity to apron D as to nicely spread the sand upon the apron. The sand thus distributed on the endless apron is taken up by the under edge or surface of the bar of clay, so that said edge or surface of each brick subsequently cut from the bar of clay is sanded.

For sanding, the bar of clay on the top edge or surface is provided as follows: The top wall of opening 5 of the container, preferably centrally thereof, is slotted transversely, as at 6, and immediately above this slot, within the sand container, is located a fluted or grooved roller L, substantially the same in construction as roller G, hereinbefore referred to, roller L preferably extending somewhat into chamber 5, as shown at L', and being operatively mounted on a shaft M, that has bearing in upright arms or members 7, located at the ends of slot 6 and preferably integral with the top wall of opening 5, roller L fitting nicely between members 7. Shaft M extends laterally through the sand-container and through a laterally-projecting lug or sleeves a^3, integral with the adjacent side of the container, said shaft thus having ample bearing-surface. Shaft M is arranged parallel with driving-shaft H and is operatively connected with shaft H by means of a pulley M', that is mounted on shaft M and connected by a belt M^2 (see dotted lines) with a pulley H', mounted on shaft H. At either side of roller L and extending, preferably, the entire length or approximately the entire length thereof the top wall of chamber 5 has upwardly-extending arms or members 8, preferably bolted thereto, as at 9, and to members 8 are fastened, respectively, a scraper N, also preferably of leather or other flexible material, substantially the same as scrapers I, already described, and extending the entire length of the roller, member 8, that is located at the side of roller L opposite to the direction of rotation of the roller, being preferably bent laterally away from the roller, as at 10, and the respective scraper is attached to this bent portion of member 8, the free end of this scraper being bent upward and bearing upon the periphery of the roller, whereas the free end of the scraper at the opposite side of the roller is held gently in contact with the periphery of the roller, preferably by means of a set-screw or bolt O, extending through a corresponding perforation in the respective member 8 and engaging the rear surface of the scraping device near the free end of the latter. By such construction it will be observed that the top surface of the bar of clay is sanded as it passes through opening 5 in the sand-container on its way from the pug-mill or brick-machine to the cut-off mechanism.

We have found that by sanding the bar of clay on both top and bottom edges or surfaces the best results are had, there being no liability whatever of the bricks adhering to each other in ricking the same.

To prevent pieces or lumps of clay or other material from falling from the pug-mill or brick-machine onto the inclined section of the endless traveling apron, we provide the lower section of the sand-container with a rearwardly extending and declining apron or feeder R, the lower section of the container having, preferably, a rearwardly-projecting flange, as at a^4, to which said apron R is secured in any suitable manner, and apron R is located directly above the adjacent portion of the inclined section of the endless traveling apron, and of course extends rearward of the container far enough to answer the purpose for which it is designed.

What we claim is—

1. In sanding apparatus of the variety indicated, a sand-container comprising two sections located the one above the other in open relation with each other and bolted together, substantially as indicated, in combination with a supporting-bracket at either side of

the container, the lower section of the container at the upper end and at either side thereof having a laterally-projecting flange resting upon and removably secured to said supporting-brackets, substantially as set forth.

2. In sanding apparatus of the variety indicated, a sand-container having a laterally-projecting flange at either side, in combination with supporting-brackets, upon which said laterally-projecting flanges are adapted to rest, the lateral flange and bracket at one side of the container being vertically slotted inward from their outer edges, as at 4, the last-mentioned lateral flange having an upwardly-projecting lug or pair of lugs adjacent said slot, an eyebolt pivotally secured to said lug or lugs between the side walls of the slot aforesaid, and a nut mounted upon the shank of the eyebolt and adapted to engage the lower side of the horizontal member of the bracket, said bolt being adapted to swing outwardly upon its pivotal bearing, substantially as and for the purpose set forth.

3. In sanding apparatus of the variety indicated, a sand-container having an opening for the passage of the bar of clay, an endless traveling apron located in line with the aforesaid opening and having an inclined section adjacent the sand-container, the latter having one or more rearwardly-projecting lugs or members, and a plate constituting the bottom of the opening aforesaid and bent over the edge of said rearwardly-projecting lugs or members, said plate extending forward of the sand-container and bridging the space between the latter and the aforesaid endless apron, but without making contact with the latter, substantially as and for the purpose set forth.

4. In sanding apparatus of the variety indicated, a fluted or grooved feed-roller located in the lower part of the sand-container, scrapers or cut-offs supported at opposite sides of said roller, the free end of the scraper located at the side of the roller opposite to the direction of rotation of the roller, being bent upward and bearing upon the roller, and the free end of the other scraper being adapted to merely make contact with the periphery of the roller, substantially as set forth.

5. In sanding apparatus of the variety indicated, a fluted feed-roller located in the lower part of the sand-container and scrapers or cut-offs supported at opposite sides of said roller and extending approximately the entire length of said roller, the free end of the scraper located at the side of the roller opposite to the direction of rotation of the latter, being bent upward and bearing upon the periphery of the roller, and the free end of the other scraper being adapted to merely make contact with the periphery of the roller, and a set-screw or bolt for holding the free end of the last-mentioned scraper in proper position relative to the periphery of the roller, substantially as set forth.

6. In apparatus for sanding the top and bottom surfaces of a traveling bar of clay, a sand-container, an endless traveling apron for conveying the bar of clay, said apron having an inclined section, a fluted or grooved roller located within or partly within the sand-container and above the line of travel of the bar of clay, said fluted or grooved roller being adapted to feed sand from the container and discharge the same onto the traveling bar of clay, a fluted or grooved roller located in the lower part of the sand-container below the line of travel of the bar of clay and adapted to feed sand from the container to the inclined section of the endless traveling apron, and suitable means for confining the discharge of sand to that carried in the flutes or grooves of the rollers, substantially as set forth.

7. In apparatus for sanding the top and bottom surfaces of a traveling bar of clay, a sand-container, an endless traveling apron for conveying the bar of clay, said apron having an inclined section adjacent the sand-container, a fluted or grooved roller located within or partly within the sand-container and above the line of travel of the bar of clay, said fluted or grooved roller being adapted to feed sand from the container and discharge the same onto the traveling bar of clay, and a fluted or grooved roller located in the sand-container below the line of travel of the bar of clay and adapted to feed sand from the container to the inclined section of the endless traveling apron, the feeding mechanism above and below the line of travel of the bar of clay being operatively connected with each other, substantially as set forth.

In testimony whereof we sign this specification, in the presence of two witnesses, this 30th day of January, 1892.

WILLIAM W. WALLACE.
RAYMOND C. PENFIELD.

Witnesses:
L. W. PENFIELD,
W. W. WALLACE, Jr.