(No Model.)

S. P. CRAFTS.

BRICK MACHINE.

No. 367,369. Patented Aug. 2, 1887.

Fig. 1

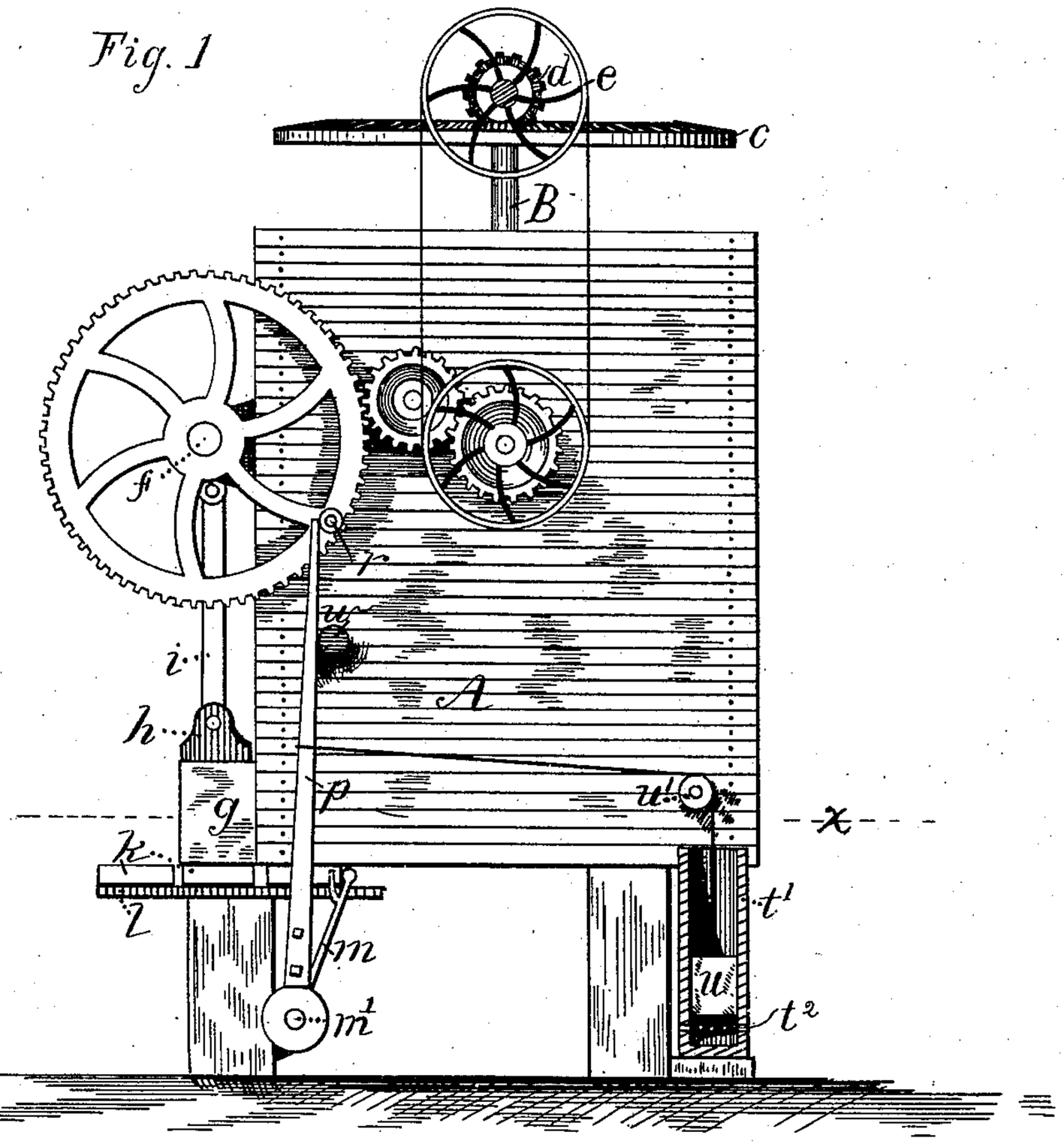
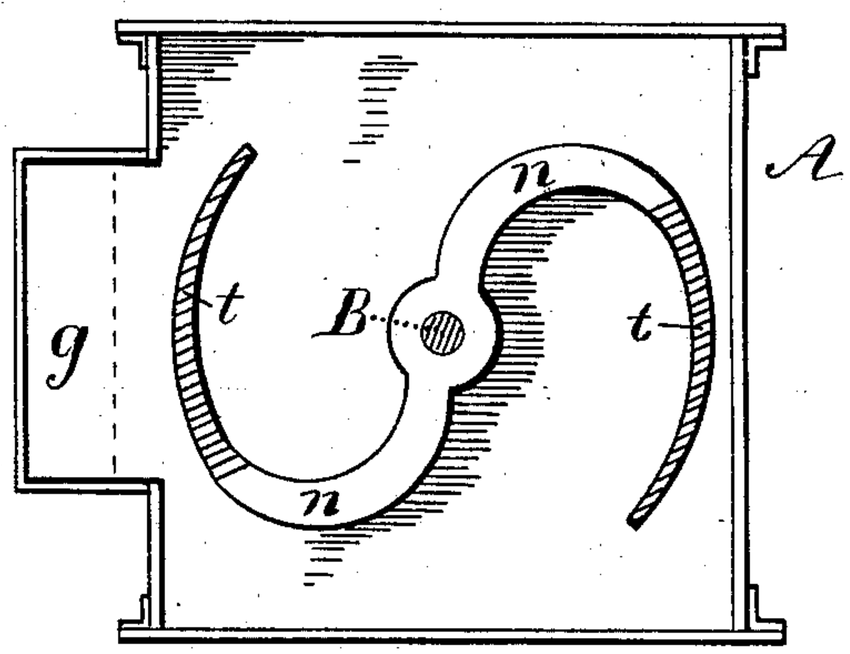


Fig. 2



WITNESSES:

George L. Barnes.

David K. Andrews.

INVENTOR

Samuel P Crafts.

BY

Julius Twiss.

ATTORNEY

UNITED STATES PATENT OFFICE.

SAMUEL P. CRAFTS, OF HAMDEN, CONNECTICUT.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,369, dated August 2, 1887.

Application filed July 21, 1886. Serial No. 208,587. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. CRAFTS, residing at Hamden, in the State of Connecticut, have invented new and useful Improvements in Brick Machinery, of which the following is a specification.

My invention relates to improvements in brick machinery; and it has for its object to provide means for preventing the egress of the clay from the press into the pug-mill while the plunger is descending, and also means for returning the rock-shaft lever in its backward throw without shock.

The invention consists in the novel construction of the arms of the wiper and in a weight and dash-pot for operating the rock-arm, as hereinafter more fully described and claimed.

Referring to the drawings, Figure 1 is a side view of a brick-machine or "pug-mill" and press embodying my improvements; and Fig. 2 is a horizontal section on the line *x*, Fig. 1, showing a plan view of the "wiper-arms."

In the drawings, A designates a pug-mill of the ordinary rectangular form, in which is arranged the vertical shaft B, for carrying the ordinary series of knives or arms for tempering or mixing the clay. The shaft is turned by a crown gear-wheel, *c*, on its upper end, which gears with a driving-pinion, *d*, on the main shaft. A pulley, *e*, on the main shaft transmits power through a belt and suitable gearing to a press-shaft, *f*, and crank on the front of the mill. Underneath the shaft at the bottom of the mill is a press or case, *g*, communicating with the interior of the mill, and containing a plunger, *h*, which is operated by a connecting-rod, *i*, and crank on the press-shaft, all arranged in the usual and well-known manner. The brick-molds *k* are filled underneath the press, and rest upon the table *l*. The molds are inserted back of the press and advanced in the usual manner by vibrating arms *m*, carried on the rock-shaft *m'*. The rock-shaft is operated by the lever *p*, which is engaged and carried forward by the action of a pin and roll, *r*, on the press-shaft gear-wheel. This mechanism is well known, and requires no further description.

The shaft B carries a nipper or pair of curved arms, *n*, at its lower end, for the purpose of forcing the clay outward into the press *g*. These arms as ordinarily made extend outward and terminate near the sides of the mill, and as they sweep around they force the clay into the press; but when the press-plunger descends a portion of the clay, held only by its inertia and adhesiveness, escapes back into the pug-mill. To obviate this difficulty, I provide each arm with a sweep or part, *t*, extending rearwardly from the ends of the curved arms *n*, concentric with the axis of the shaft through about a quarter of a circle, as shown in Fig. 2. The sweeps are formed integral with the curved arms, both arms being cast in one piece with a hub for the reception of the shaft. The arms advance with their convex sides foremost, and after the clay is forced into the press it is held therein by the sweeps on the wiper, each of which acts alternately as a gate to close the press while the plunger is descending. The sweeps do not fit closely to the mouth of the press; but this is not necessary, as the clay will not escape through the small space thus left on account of its adhesiveness. By this arrangement the mud is either being forced into the press or is held while the plunger is descending.

The rock-shaft lever *p* is operated forward by the pin and roll *r* on the press shaft gear-wheel, and is returned by the action of a weight, *u*, connected to the lever by a suitable cord or chain passing over the roll *u'* on the mill. The weight is arranged in a vertical rectangular box, *t'*, which it accurately fits. A series of holes, t^2, are bored in the rectangular box near its bottom, and after the weight passes the holes the air-cushion beneath brings it to rest without shock. A buffer or stop, *w*, is fastened to the exterior of the pug-mill to limit the backward throw of the lever. By means of this device the action of the rock-shaft lever takes place noiselessly and without shock.

It will be seen that when the revolving wiper consists of a main spirally-curved portion and a concentric outer portion joined to the spiral portion by a continuous curve the implement tends to force the clay outward into the passes leading to the molds, and that there is less resistance to the advance of the arm and wiper as it plows through the clay. These advantages are not obtained when the main portion of the arm is made radial, or substantially

radial, and joined to the concentric portion at an angle. This form of wiper therefore produces superior work with less consumption of power.

I claim as new and desire to secure by Letters Patent—

1. In combination with a suitable support or table for the molds, the rock-shaft, one or more arms on the shaft to engage the molds, a lever attached to the rock-shaft, a rotary wheel provided with means for engaging and operating the lever as the wheel rotates, a cord attached to the lever, the weight on the cord, and the dash-pot adapted to cushion the weight as it falls, substantially as and for the purpose shown.

2. As a means for feeding the molds forward, a rock-shaft, arms thereon, a lever on the shaft, a rotary wheel provided with a roller to engage the lever, the dash-pot provided with the air-opening, the weight fitting in the dash-pot, the pulley, and the cord attached to the weight and the lever and passing over the pulley, substantially as and for the purpose shown and described.

3. In a brick-machine, the combination of the rock-shaft m, arms m, lever p, dash-pot t', with openings $t^2 t^2$, the weight u, and the cord connecting the weight and lever, substantially as and for the purpose set forth.

SAMUEL P. CRAFTS.

Witnesses:
D. K. ANDREWS,
EDWIN C. DOW.