

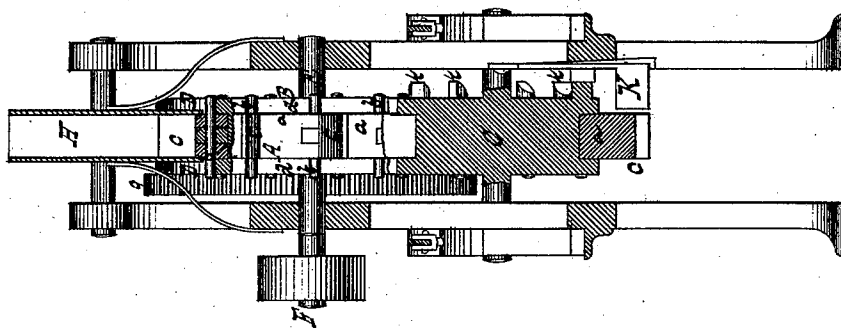
J. WANKA.

MACHINES FOR COMPRESSING GRANULATED AND OTHER
SUBSTANCES.

No. 177,595.

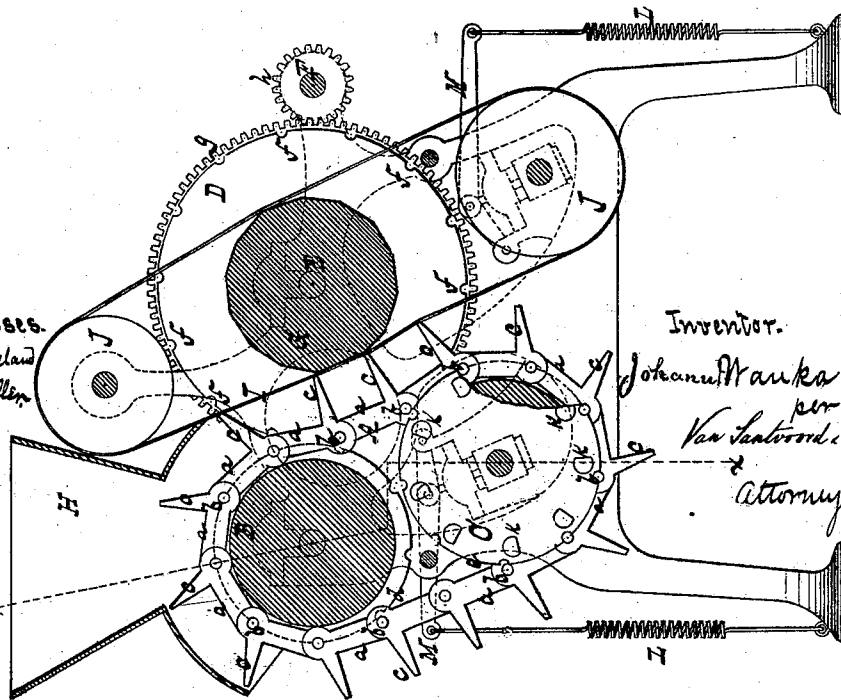
Patented May 16, 1876.

Fig. 2.



Witnesses.
Otto Schupfand
Robt. S. Miller

Fig. 1.



Inventor.

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per
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UNITED STATES PATENT OFFICE.

JOHANN WANKA, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR COMPRESSING GRANULATED AND OTHER SUBSTANCES.

Specification forming part of Letters Patent No. **177,595**, dated May 16, 1876; application filed April 21, 1876.

To all whom it may concern:

Be it known that I, JOHANN WANKA, of the city, county, and State of New York, have invented a new and Improved Chain-Lever Press, which invention is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a longitudinal vertical section. Fig. 2 is a transverse vertical section in the plane *x x*, Fig. 1.

Similar letters indicate corresponding parts.

This invention consists in the combination of a lever-chain with two drums and two disks, all provided with recesses for the reception of the parts which connect the chain-links, and with a suitable abutment, said lever-chain being composed of a series of links, provided with toes or levers, and being stretched over two of said drums or pulleys, to which a revolving motion is imparted, so that by the combined action of the drums and of the disks the levers of the successive chain-links are gradually closed and then opened, and any material which is dropped between the levers of two adjoining links, while the same are open, is gradually compressed.

With the stationary abutment is combined a belt, which prevents the material to be compressed from dropping out from between the successive levers. A self-acting clearer throws the compressed material out at the proper point.

In the drawing, the letter A designates an endless chain, which is composed of a series of links, *a*, that are connected to each other by pins *b*. Each of the links is provided with a toe or lever, *c*, and the pins *b* project beyond the sides of said links, as shown in Fig. 2.

The chain A is stretched over two drums, B C, which are provided with notched rims *d e*, between which the links *a* of the chain fit, while the ends of the pins *b* extend beyond the sides of said links and catch in the notches of the rims *d e*.

Opposite to the rims of the drums B C are situated two disks, D, which are provided with notches *f* to engage with the pins *b* of the chain-links *a*. Said disks are mounted on a shaft, E, on which is secured a cog-wheel, *g*, that engages with a pinion, *h*, mounted on the driving-shaft F. By turning this driving-

shaft, therefore, a revolving motion is imparted to the disks D, and as the notches of these disks engage with the pins of the chain A, the motion is transmitted to said chain and to its drums, and by the position of the disks in relation to the rims of the drums the toes or levers *c* of the succeeding links are caused to close up during the time they pass through the space between the two drums, while said toes or levers are thrown wide open during the time they travel over the top of the drum B and beneath the drum C.

Between the disks D is situated an abutment, G, which, in the example shown in the drawing, is mounted on the shaft E, and revolves with the same; but said abutment may be made stationary, if desired, and it is so placed that it closes the space between two succeeding toes or levers, *c*, during the time said levers or toes have reached their closing position.

Over the drum B is situated a hopper, H, through which the material to be pressed is introduced, and, as the chain A moves beneath the hopper, said material drops into the spaces between the succeeding toes or levers *c*, which at this point are wide open. The material thus caught between said levers or toes is then carried on by the motion of the chain, and as the levers or toes gradually close up the material is compressed.

With the abutment G I have combined a belt, I, of thin metal or other suitable material, which runs on two pulleys, J, and extends through between the two disks D. The object of this belt is to prevent the material contained between the levers or toes *c* from dropping out prematurely.

After the material has been compressed by the levers or toes *c* into blocks of the desired size and compactness, such blocks are discharged from between the levers or toes by the action of a hammer, K, which is actuated by pins *l*, projecting from the face of the drum C, or by any other suitable mechanism connected to the driving gear of my press.

The tension of the chain A, and also that of the belt I, is controlled by springs L and levers M, or by any other suitable mechanism, whereby the tension is rendered yielding.

My press can be used with advantage for

compressing granulated or powdered substances into cubical blocks—for instance, for the manufacture of cubes from granulated sugar or for compressing waste coal into blocks fit for burning.

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

1. The combination of an endless chain, A, composed of links *a*, having toes or levers *c*, with drums B C, having notched rims to engage with the pivots *b* of the chain-links *a*, and with notched disks D, and an abutment, G, all constructed and operating substantially as shown and described.

2. The combination, with the endless lever-

chain A, drums B C, notched disks D, and abutment G, of a belt, I, to prevent the material to be pressed from dropping out of the lever-chain, substantially as set forth.

3. The combination, with the lever-chain A, of the clearer K, actuated by the pins *k* projecting from the drum C, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 14th day of April, 1876.

JOHANN WANKA. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.