

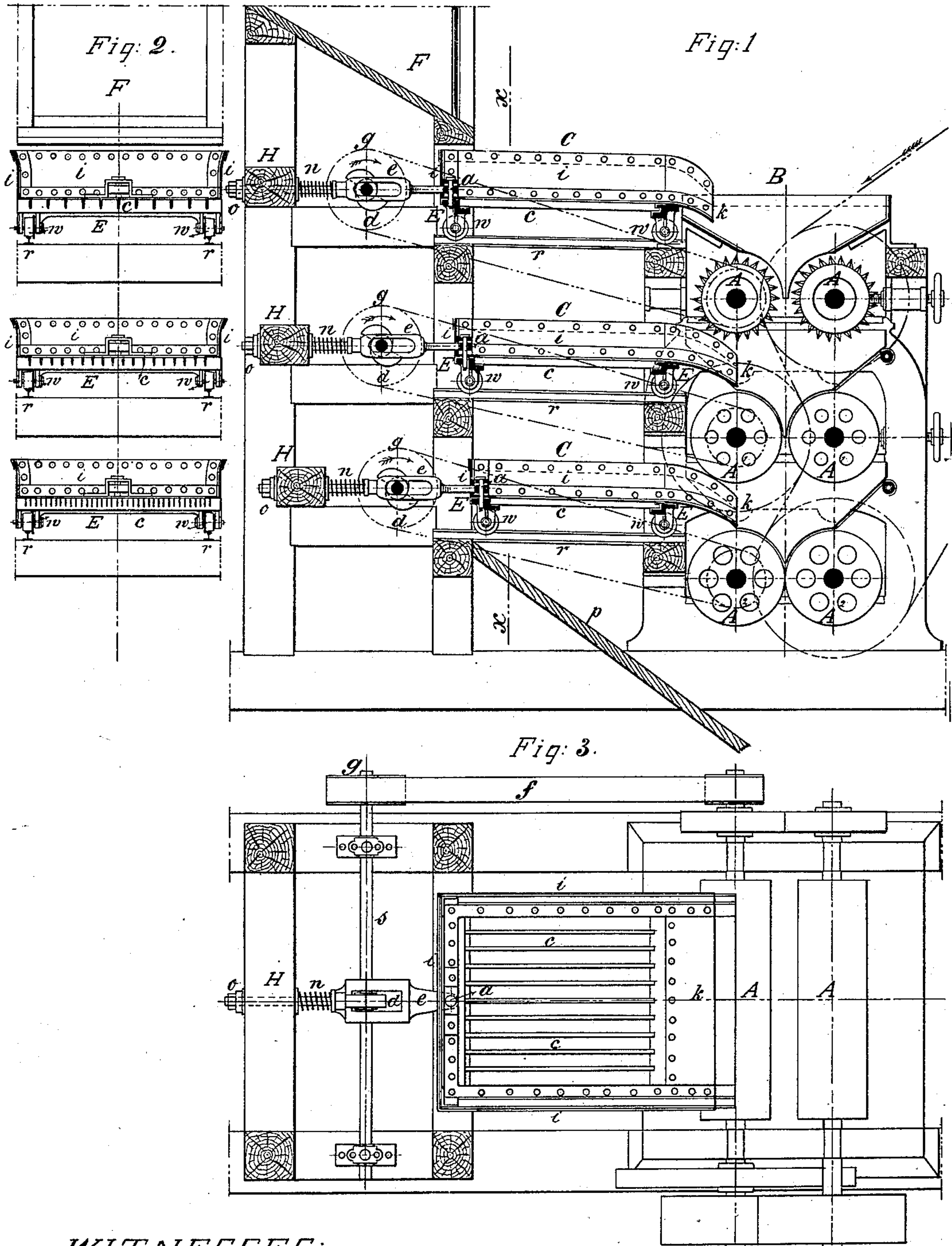
(No Model.)

S. STUTZ.

CLASSIFYING AND FEEDING APPARATUS FOR ORES.

No. 246,046.

Patented Aug. 23, 1881.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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CLASSIFYING AND FEEDING APPARATUS FOR ORES.

SPECIFICATION forming part of Letters Patent No. 246,046, dated August 23, 1881.

Application filed January 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, SEBASTIAN STUTZ, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Classifying and Feeding Apparatus for Ores, &c., of which the following is a specification.

My invention relates to improvements in classifying and feeding machines for coal, coke, ore, &c., operated in connection with breaking and crushing machines; and the object of my improvements are, first, to arrange the material into classes or grades; second, to feed into the breaking or crushing rolls only pieces which have greater size than the pieces required; and, third, to regulate the feeding of the material into the rolls. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire machine connected with a breaking and crushing apparatus. Fig. 2 is a vertical cross-section on the line $x x$ of Fig. 1, and Fig. 3 is a top view.

Similar letters refer to similar parts throughout the several views.

The apparatus is adapted to a breaking and crushing machine for which Letters Patent have been granted to me May 14, 1878, and consists of a movable screen, C, arranged between the crushing-machine and the storage-bin holding the material. The screen is provided with three sides, i , in the shape of a box, the front side being left open to terminate in an inclined plane or spout, k . It is supported by wheels w standing on rails r . The latter are slightly inclined toward the rolls. The screen-bars c are fixed upon cross-pieces E, together with the sides and the spout of the box. A yoke, e , guided in the frame H and provided with a spiral spring, n , is attached to the rear of the screen-box by means of the pin a . The shaft s has cams d , working in the yoke e , and receiving movement from the crushing-rolls by means of the pulley g and belt f . The space between the screen-bars c depends on the number of screens superposed and the size of the

material required. If more than one screen is used the meshes of the lower screen must allow pieces corresponding to the required size of the material to pass through it. In the case represented by the drawings three screens are superposed. The upper one receiving the full charge from the bin F will feed only the large lumps into the breaking-rolls A A, while the smaller pieces go to the middle screen, to be grated again. The part remaining upon the screen is fed into the rolls A' A', while the third class will fall upon the lower screen and is divided again. The pieces resting upon this screen are fed into the lower rolls, A² A², while the material already small enough will pass through the meshes upon the inclined plane p , and thence to the elevator.

The operation of the machinery is as follows: The cam d , revolving in the proper direction, causes the yoke e and the screen attached thereto to move backward a distance equal to its stroke, and while this is done the spring n will be compressed together. As soon as the point of the cam d escapes the yoke the power stored into the spring n reacting upon the yoke will draw the screen forward with great speed; but the momentum thus imparted to the screen is met with a sudden stop by the regulating-screw o , leaving only the loose material on the screen to be drawn forward into the rolls. As the cam is double this is done twice per revolution. The length of the stroke and the power necessary to the spring n may be easily regulated by means of the screw-nut o , to suit the quantity to be fed at each stroke.

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

A classifying and feeding apparatus for crushing-machines consisting of one or more screens, C, supported by wheels w , and provided with mechanism for moving the same backward and forward upon rails r , substantially as described, and for the purpose specified.

SEBASTIAN STUTZ.

Witnesses:

JOS. D. WEEKS,

J. C. ARMSTRONG.