

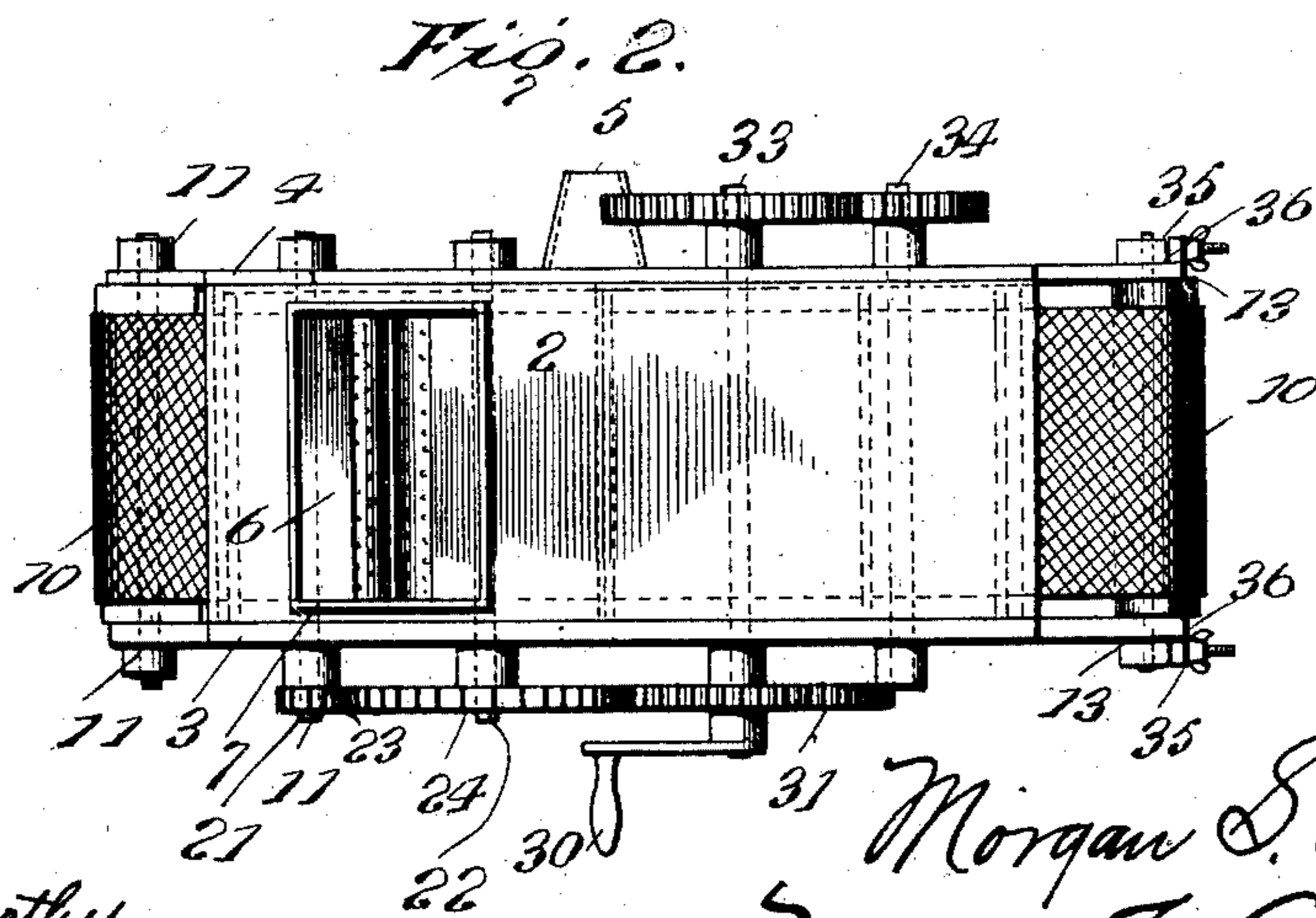
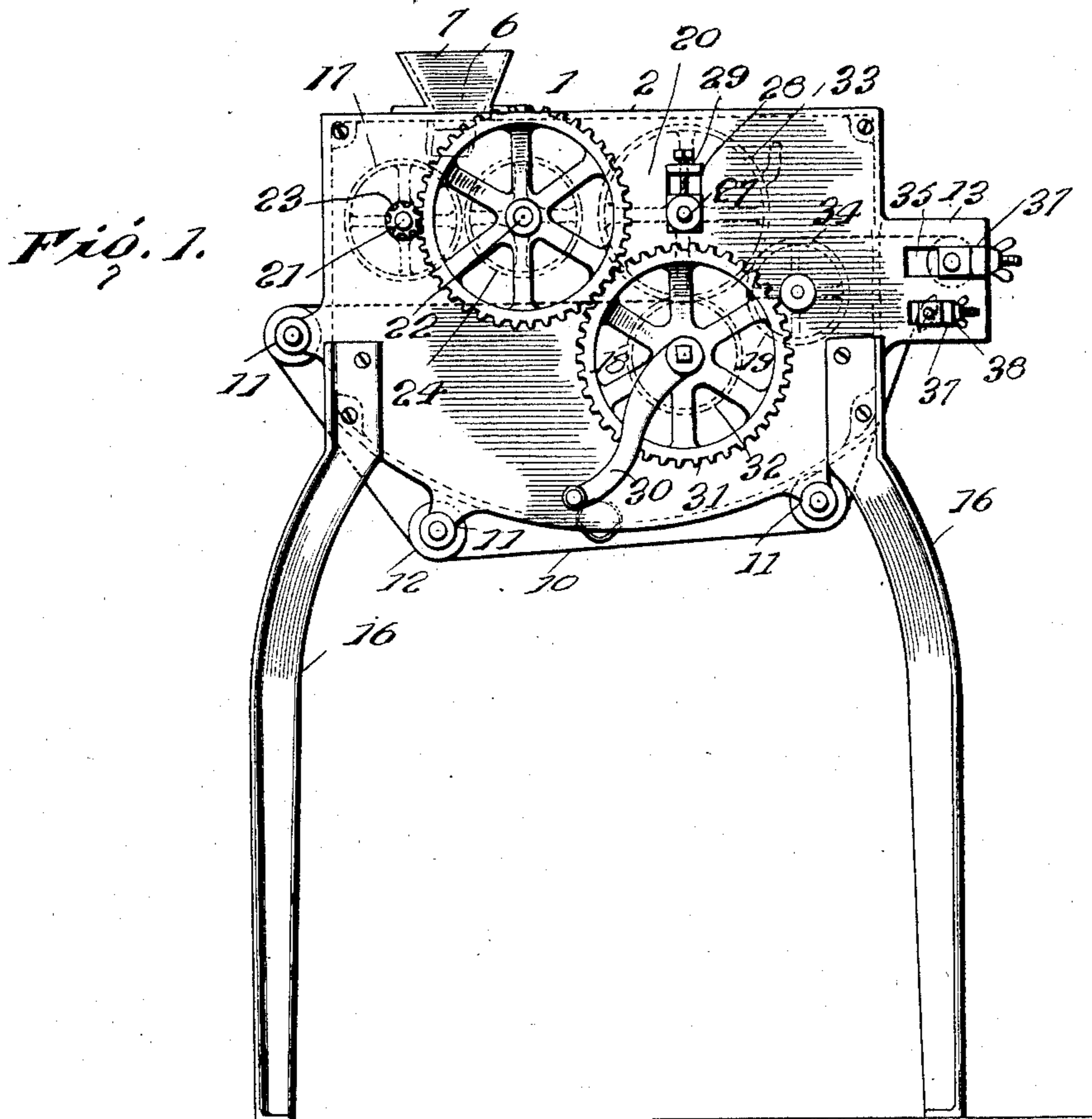
No. 864,832.

PATENTED SEPT. 3, 1907.

M. S. CLARK.  
PRESS.

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2 SHEETS—SHEET 1.



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# UNITED STATES PATENT OFFICE.

MORGAN S. CLARK, OF ROANOKE, VIRGINIA.

PRESS.

No. 864,832.

Specification of Letters Patent.

Patented Sept. 3, 1907.

Application filed August 13, 1906. Serial No. 330,475.

*To all whom it may concern:*

Be it known that I, MORGAN S. CLARK, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Presses, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in presses of the belt and roller type and consists in the novel construction, combination and arrangement of parts hereinafter described and claimed.

The object of the invention is to provide a simple and practical machine of this character in which fruit, lard and other substances may be pressed to quickly and effectively express their juice or liquid portions from their solid portions.

Further objects and advantages of my invention, as well as the structural features by means of which these objects are attained, will be made clear by an examination of the specification, taken in connection with the accompanying drawings, in which the same reference numerals indicate corresponding portions throughout, and in which,

Figure 1 is a side elevation of the improved press; Fig. 2 is a top plan view of the same; Fig. 3 is an end elevation; and Fig. 4 is a detail vertical longitudinal section.

The body 1 of the press is, preferably, but not necessarily, made of metal and, as shown, consists of a main casting 2 having open front and rear sides closed by plates or heads 3, 4 which are bolted to the casting 2. The latter is substantially rectangular in form, but has a longitudinally curved bottom from the center of which upon one side projects a discharge spout 5 for the juices or liquids expressed by the press. In the top of the body casting 2 adjacent to one of its ends is an inlet 6 for the fruit, or other substance to be treated. This inlet opening 6 extends transversely and has a surrounding depending flange, as seen in Fig. 4. A hopper 7 is bolted upon the top of casting 2 above the opening 6 to feed the fruit or the like into the press. In the ends of the casting 2 are formed transverse, horizontal slots or openings 8, 9 through which passes an endless feed belt 10 of canvas or other suitable material. The side plates 3, 4 have formed at suitable points along their edges apertured lugs 11 which provide bearings for the journals of guide-rollers 12 for the belt 10. Said plates are also formed at one of their ends with extensions 13, in which are mounted a tension roller 14 for the belt and a belt scraper or cleaner 15. The body 1 of the press is supported at a suitable height by legs 16 which are bolted on the side plates.

The feed belt 10 is provided for the purpose of carrying the substance to be pressed from two grinding rollers 17 to and through three pressing rollers 18, 19, 20. The grinding rollers are disposed transversely in

the body 1 above the feed belt and beneath the inlet opening 6, and they are fixed upon shafts 21, 22, which are mounted in bearings in the side plates 3, 4. The shaft 21 has fixed upon one of its ends a pinion 23 which meshes with a gear 24 fixed upon the shaft 22, so that said grinding rollers will rotate in opposite directions and at different speeds. The pressing rollers 18, 19, 20 are, preferably, arranged as shown in Fig. 4, the rollers 18, 19 being of the same size and disposed out of contact with each other, and the roller 20 being somewhat larger and disposed so as to press the belt 10 against the rollers 18, 19. The latter have their shafts 25, 26 mounted in stationary bearings in the side plates 3, 4, and the roller 20 has its shaft 27 journaled in slidably-mounted, spring-pressed bearings 28 in said side plates. Set screws 29 are provided for adjusting the tension of the springs which actuate the bearings 28, so that the roller 20 may be caused to bear against the rollers 18, 19 with any desired degree of pressure, according to the substance to be treated. On the front end of the shaft 25 is fixed a crank handle 30, or other suitable operating device, and also a gear 31 which meshes with and drives the gear 24. On the rear end of the shaft 25 is fixed a gear 32 which meshes with a gear 33 fixed upon the shaft 27. The gear 33 also meshes with a gear 34 fixed upon the shaft 26, so that the pressing rollers 18, 19, 20 are geared together and positively driven. The belt may be stretched as tight as desired by adjusting the roller 14 which has the ends of its shaft journaled in bearing blocks 35 slidable in slots in the extensions 13. This adjustment of the roller 14 is effected by means of nuts 36 upon screw-studs which are carried by said bearings 35 and project through apertures in lugs or ears upon the extensions 13, as clearly shown in Figs. 1 and 2.

The belt cleaner or scraper 15 is in the form of a flat blade having rounded longitudinal edges and disposed immediately below the roller 14 so as to coact therewith. At the centers of the ends of said blade are pivot-studs mounted in bearing blocks 37 which slide in slots in the extensions 13 and are adjusted by screws 38. A transverse scraper blade 39 is provided in the body 1 to engage the roller 20, as seen in Fig. 4.

The operation of the press is as follows: The substance to be pressed is placed in the hopper 7 and the crank handle 30 is turned. The gearing previously described rotates the grinding rollers 17 which grind the substance and deposit it upon the belt 10 which carries it between the rollers 20 and 18, 19. As the substance passes between these pressing rollers all of the juice or liquid is expressed from it, the juice running down upon the bottom of the body 1 and passing therefrom through the spout 5 and into a suitable receptacle. The pomace or solid portion of the substance being treated, remains upon the belt and passes out of the opening 9 in the body 1. Owing to the small di-

ameter of the tension pulley 14, the pomace on the belt will be caused to break and drop therefrom as it passes around said pulley, and should any pomace remain upon the belt it will be removed by the scraper 15, as 5 will be readily understood. The scraper 38 removes any pomace that may adhere to the roller 20.

If found preferable, the belt cleaner or scraper 15 may be rotatably mounted so as to turn in a direction opposite to the belt and thereby more effectually scrape 10 the same.

Having thus described my said invention, what I claim as new and desire to secure by Letters Patent of the United States, is

15 A press of the character described comprising a body having a horizontal slot in one of its end walls, horizontally extending arms projecting from the sides of the body at the opposite ends of said slot, said projecting arms being formed with upper and lower transversely aligned and horizontally extending slots, apertured ears upon said arms at

the outer ends of said slots, bearing blocks slidably mounted in the upper slots, screws carried by said bearing blocks and projecting through the ears at the ends of said slots, adjusting nuts upon said screws, a guide upon the exterior of said body adjacent to its lower end, an endless apron 20 passed between said pressing rollers through the slot in the body and over said guide roller and said guide, blocks slidably mounted in said lower slots, screws carried by the last mentioned blocks and arranged in the apertured ears at the ends of said lower slots, adjusting nuts upon said screws, and a scraper bar having rounded longitudinal edges and provided at its ends with pivot studs mounted 25 in the last mentioned blocks, said scraper bar being arranged vertically beneath said guide roller and being adapted to press said apron against said roller, substantially as shown and described. 30

In testimony whereof I hereunto affix my signature in presence of two witnesses. 35

MORGAN S. CLARK.

Witnesses:

WALTER A. CLARK,  
LEROY A. CLARK.