

## TOTAL CARD COUNTER

The Total Card Counting attachment for the Horizontal Sorter is a device for counting all cards that pass through the machine. The counter is mounted under the magazine at a suitable angle to permit easy reading. The counter is operated electrically, has maximum capacity of 99,999 cards and it may be reset to "0" by turning the knurled knob on the end of the center shaft.

The mechanism consists of a "Veeder" counter and the necessary contacts and electro-magnet for operating it. The Veeder counter, electro-magnet, armature, and operating levers comprise one complete assembly. The armature is of the oscillating type and when the electro-magnet is energized, a pull is exerted on the armature which turns it sufficiently to operate the Veeder counter through a combination of levers. The travel of the armature is limited by fibre stops which arrest the main operating lever and insure silent operation.

The armature is returned to its de-energized position by a spring incorporated in the armature and attached to a clamp under the bearing cover. The spring tension may be adjusted by loosening the bearing cover and turning the clamp slightly. However, this should not be necessary, as it is properly adjusted before leaving the factory.

The contacts necessary to operate the counter magnets are the commutator with brushes and a special card lever contact. The commutator is made in two sections so that it may be easily clamped to the card feed knife crank shaft. It contains only one segment of a conductive material and completes a circuit, through this segment and the two brushes on each card cycle. (See fig. 1).

The card lever contact is of the double "make" type; that is, two circuits are completed at once. The outer contact is used in the card counting circuit and the inner contact in the control circuit. The automatic pocket stop contact is connected in series with the inner card lever contact.

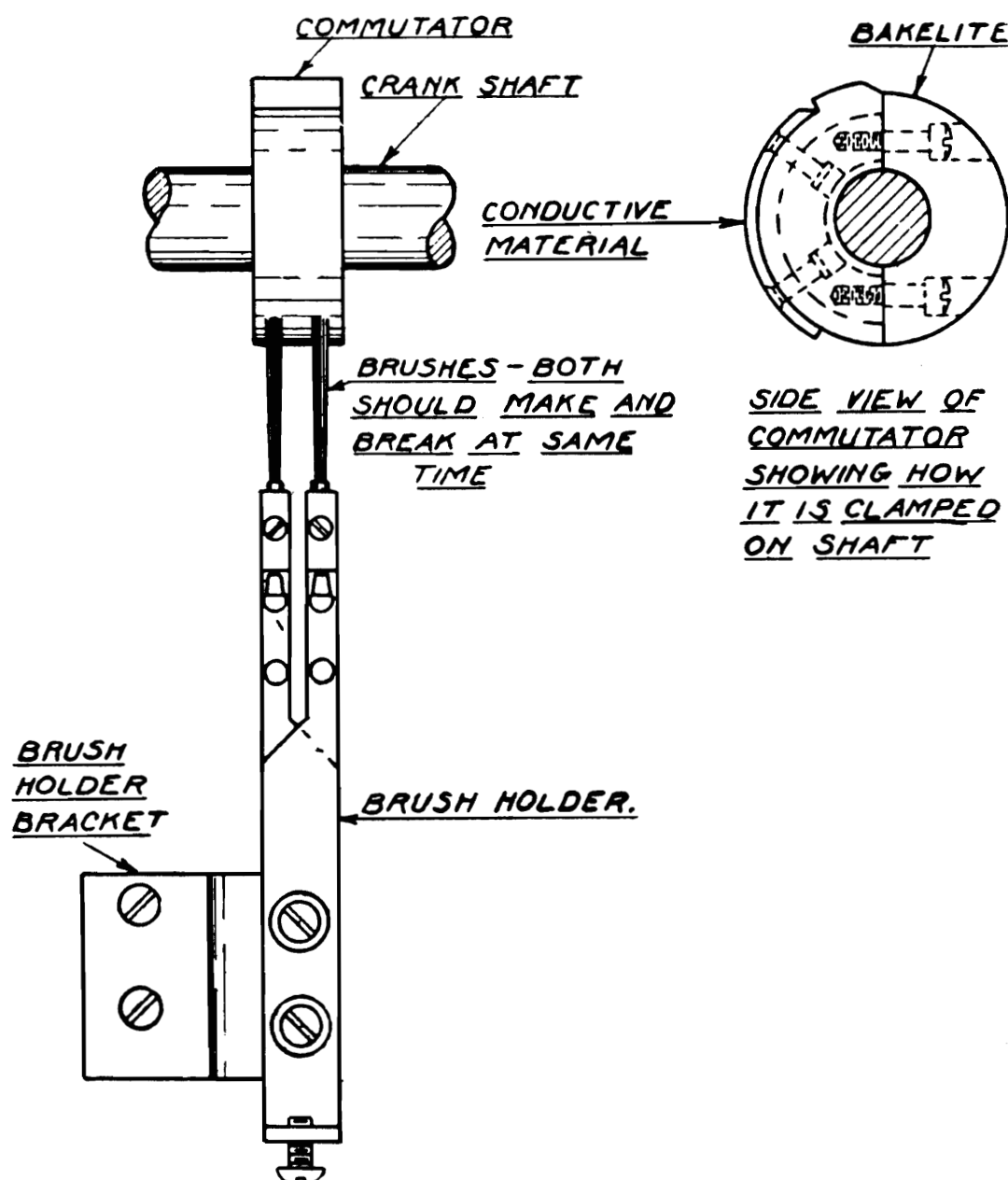


Fig. 1

The card counter is connected in series with both the special commutator contact and the outer card lever contact. Therefore, when both are closed at the same time, which occurs each cycle that cards are feeding, a circuit is completed thru the counter magnets and the counter adds "one." (See diagram).

The attachment may be installed on machines already in the field in the following manner:

Replace the card lever contact with the special double point contact provided.

Install the commutator on the card feed knife crank shaft.

Drill and tap the right end casting as per Fig. 2. The two 5-40 holes are for mounting the brush bracket. The two 14-24 holes are for mounting the counter bracket. The 3/8" hole is for the insulating bushing.

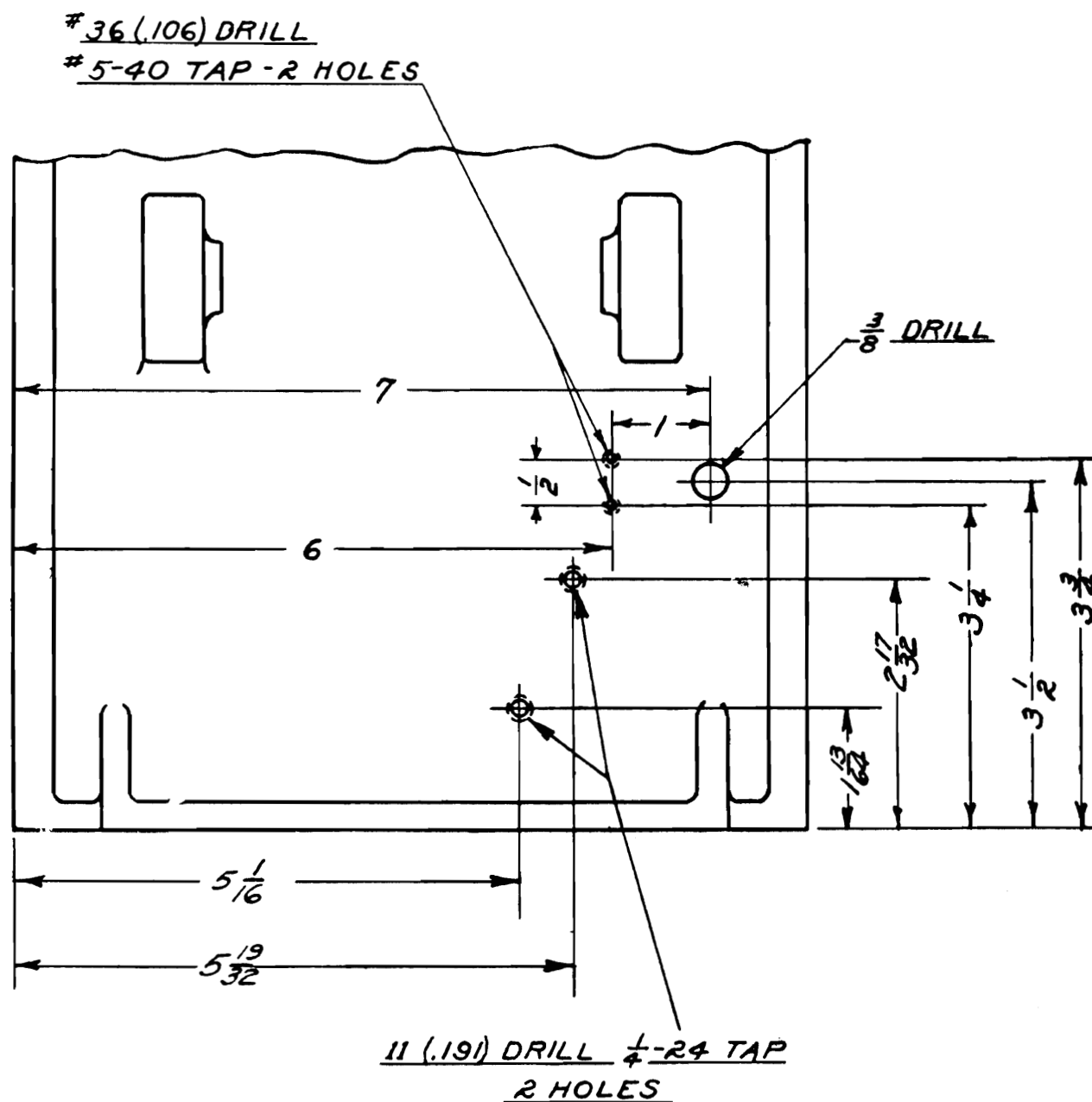
Install the brush bracket and brush assembly. Square end brushes should always be used and must be adjusted until they just clear the bakelite portion of the commutator.

Install the card counter bracket and card counter. The face of the card counter protrudes slightly thru a hole in the front of the right end cover.

Install fibre bushing in the 3/8" hole in right end casting. Rewire the machine according to wiring diagram. No resistance is necessary with this style counter, except in the first few 220 volt machines. The two coils are connected in parallel for 110 volt operation, and in series for 220 volt operation. However, they will be connected in parallel when shipped from the factory for installation on machines in the field and must be changed by the repairman before being installed on 220 volt machines.

Time the commutator so that the brushes make contact just after the center brush leaves the brass segment of the selector commutator.

Install the new end cover and test the machine, making sure that the counter operating lever does not strike the cover. The head of the screw that clamps the operating lever to the counter shaft should be down.



RIGHT END CASTING  
OF HORIZONTAL SORTER.

Fig. 2